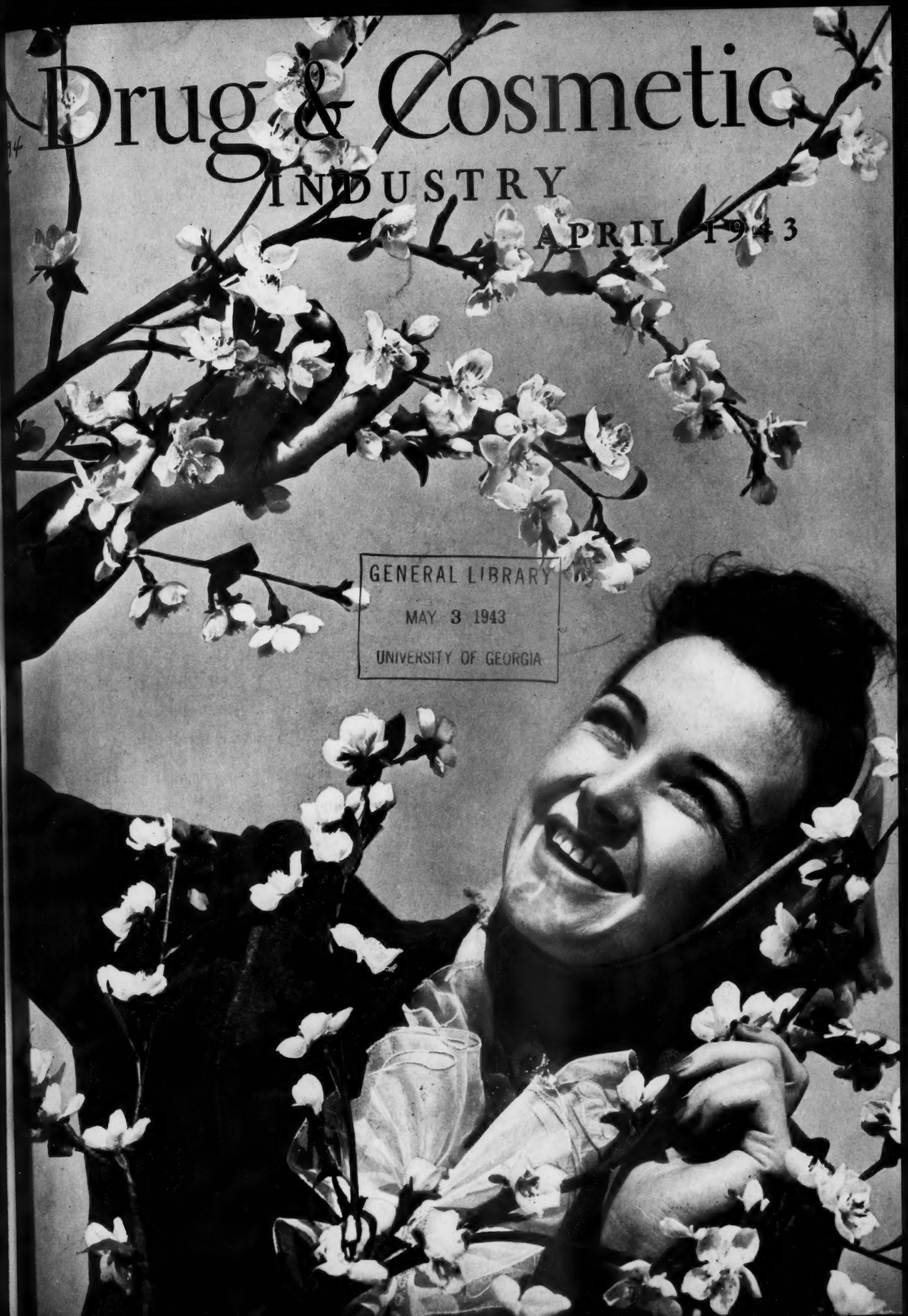
Drug & Cosmetic INDUSTRY

APRIL 1943



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Perfection in CALCIUM CARBONATE

Venus de Milo, the Roman goddess, is acknowledged to be physically perfect.

In the calcium carbonate field, Snowtop is recognized as physically and chemically perfect in meeting the requirements of the U. S. Pharmacopoeia—and in some tests it exceeds U. S. P. requirements for purity.

If you are looking for such a precipitated calcium carbonate for your product, why not try Snowtop. It comes in five standard grades, from one of which it is only a matter of fine adjustment to place its specifications within the limits of your special formula.

Snowtop has been accepted since 1935 by the Council on Dental Therapeutics of The American Dental Association.

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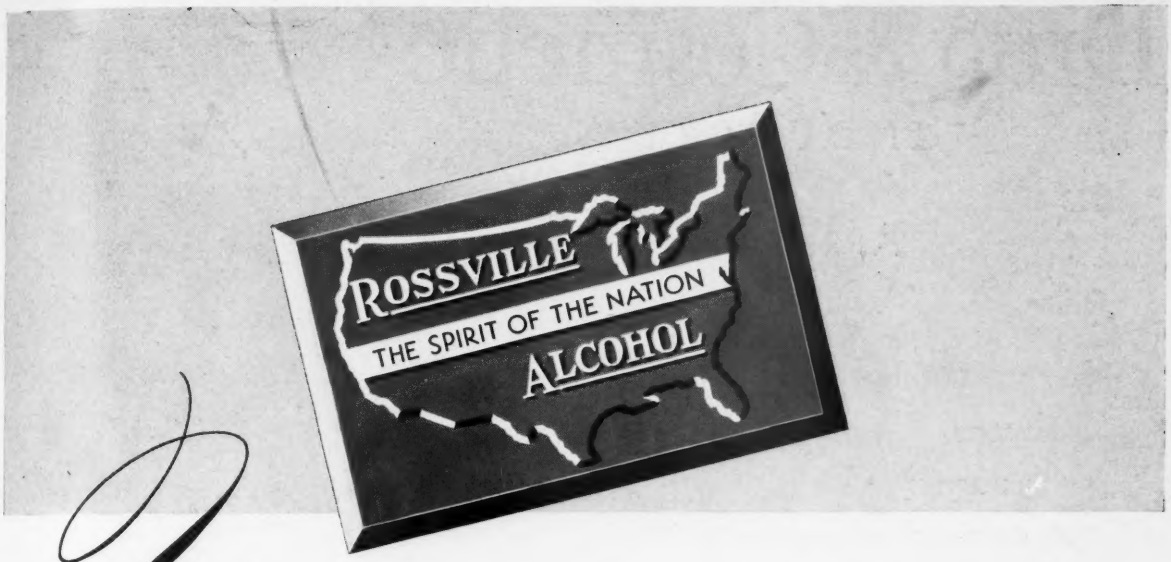

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Drug & Cosmetic INDUSTRY

APRIL 1943

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How to sell the war worker her "war paint"

18,000,000 women scheduled for work in industry! That's a real market for you, because cosmetics will go right along with the lunch boxes. In fact, cosmetics will have an even more important part than ever before. It's hard to keep a smooth skin when you're working at a welding machine or on a production line.

These war workers are going to be real fussy about their "war paint". They're going to want products of absolute purity and uniformity. First step towards providing these is to make sure of basic ingredients. That's where Standard White Oils will do a job for you. They're always pure, always uniform.

Call your nearest Standard Oil (Indiana) office for prices, specifications, and the personal cooperation of an experienced representative.

OIL IS AMMUNITION...USE IT WISELY

WHITE OILS

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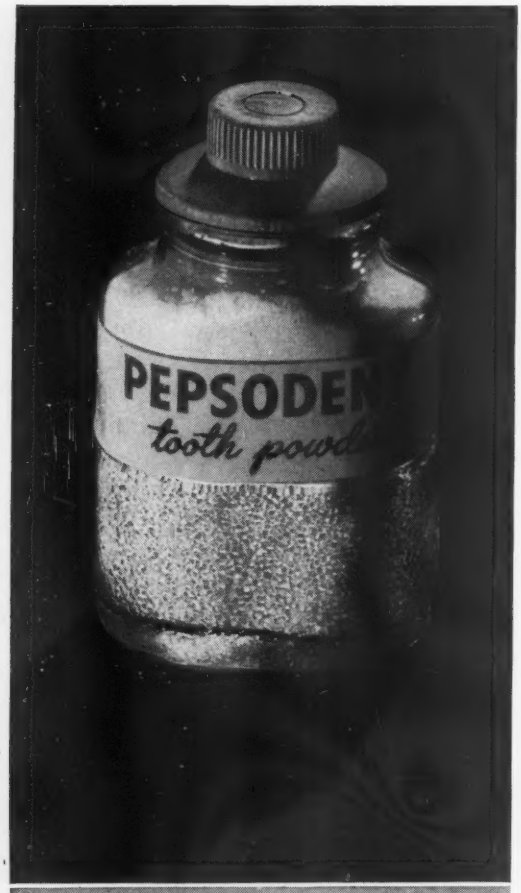
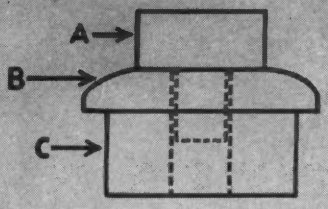
STANDARD SERVICE

WARTIME PACKAGE

EXCELS PEACETIME STANDARDS!





A. Small, wood top cork seals opening through which powder is poured. **B.** Wood base covers top of bottle. **C.** Large diameter shell cork, attached to base, seals wide filling mouth.

New PEPSODENT Package with DODGE Dual Top Cork Makes Packaging Progress

THIS WAS THE PROBLEM:

War shortages forced Pepsodent to change to a new tooth powder package. Glass was the answer *if the right closure could be designed to make a glass container practicable for both filling and dispensing.*

THIS WAS THE SOLUTION:

A special DODGE DUAL TOP CORK was designed. This new closure has *all* of these advantages:

1 It's air-tight . . . preserves the flavor of the contents.

2 It's attractive . . . keeps up the high standard of Pepsodent packages' sales appeal.

3 It's easy to use . . . permits convenient pouring.

4 It's CORK . . . available in sufficient quantities to insure future supplies.

Here's a wartime package that might have been merely a make-shift. But Dodge helped Pepsodent create a closure that's actually a forward step in packaging. *Tests prove this new package preserves the flavor of the contents better than did its predecessors!*

DO YOU HAVE A WARTIME PACKAGING PROBLEM?

Write to Dodge . . . specialists in cork for four generations. Perhaps Dodge can help *you* design a *better* package.
DODGE CORK COMPANY, INC., LANCASTER, PA.

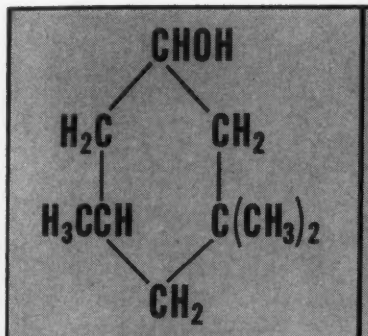
DODGE *Closures*

Designed to Guard the Integrity of the Contents

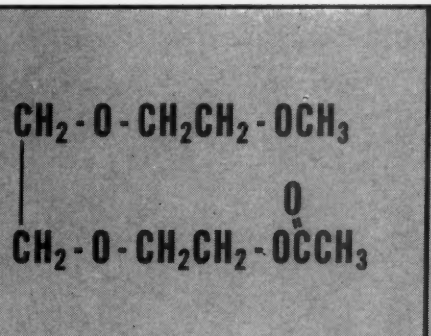
No. 8 in a series of advertisements about new research chemicals.

3 Reasons For Research

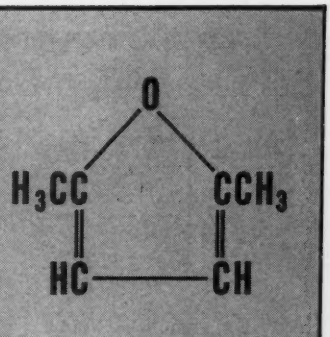
. . . unusual compounds from the laboratories of Carbide and Carbon Chemicals Corporation.



TRIMETHYLCYCLOHEXANOL



METHOXYTRIGLYCOL ACETATE



DIMETHYLFURAN

TRIMETHYLCYCLOHEXANOL is a high-boiling (198°C. at 760 mm.) cyclic alcohol which is soluble in most organic solvents, hydrocarbons, and oils. Trimethylcyclohexanol is an excellent mutual solvent and coupling agent for many otherwise immiscible liquids. It should have value as an antifoaming agent, and in the manufacture of hydraulic fluids and textile soaps. Other possible applications for the compound include the preparation of plasticizers, xanthates, and wetting agents.

METHOXYTRIGLYCOL ACETATE is a colorless, high boiling (137°C. at 6 mm.) liquid distinguished by low volatility and excellent solvent powers for cellulose esters and synthetic resins. It is probably useful in protective coatings and printing inks having a cellulose ester base. The absence of reactive groups and its non-hygroscopicity suggest its trial as an inert reaction medium and as an "anti-dusting" agent for finely powdered materials.

DIMETHYLFURAN is a water-insoluble liquid which boils at 93°C. It shows promise as a tanning agent, as a diluent for nitrocellulose formulations, and as a solvent for polyvinyl acetate. It has value as a chemical intermediate and readily reacts with maleic anhydride in the Diels-Alder reaction to form an anhydride with possible alkyd resin applications. Its specific gravity is 0.9018.

Although these new aliphatic chemicals are available now only in research quantities for laboratory investigation, it is probable that commercial quantities could be made for uses that will help win the war.

Reprints of the previous advertisements in this series announcing more than 30 other research chemicals are available on request. Write for them—there is no obligation.

For information concerning the use of these chemicals, address:

CARBIDE AND CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

UCC

30 East 42nd Street New York, N. Y.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

INSIDE NEWS

APRIL PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Glycerine in A.R.P. Glass Protection

Lessons Learned from Bombing of London Prove Helpful to American Investigators

RUIN IN OXFORD STREET AFTER "BLITZ" RAID—These hollow-eyed buildings, with scarcely a pane of glass remaining in their gaunt window frames, graphically illustrate the need for reinforcing plate glass against the concussion of high explosive bombs.

Much of the pertinent information concerning the treatment of glass to protect people from flying splinters and jagged fragments during air-raids has been obtained from the bitter experiences of the much-bombed British. Among the several procedures recommended by the Ministry of Home Security, A.R.P. Department, is the employment of thick, tough or reinforced paper applied to the glass with flour paste or acacia mucilage made slightly tacky by the addition of 5 per cent of glycerine. Uncoated transparent wrapping materials (except cellulose acetate film) can also be used. These are applied to the windows by means of a good clear gum to which 15 per cent of glycerine has been added.

Investigations have also been carried out by American investigators. Recently, one of them developed a new and very effective procedure for protection against flying glass. According to his method, old bed-sheets are cut into one-inch strips which are freely daubed, by means of a paint brush, with the following composition:

Wheat flour	4 oz. av.
Powdered alum	4 drams
Sodium benzoate	20 grains
Oil of cloves	30 drops
Glycerine	4 fl. oz.
Water	2 pints

The flour and alum are rubbed to a smooth paste with the water and the glycerine. The mixture is then heated quickly to the boiling point, removed from the source of heat, and then thoroughly mixed in the remaining two ingredients.

It is advisable to apply the strips to windows in criss-cross fashion, placing them about 1-½ inches apart and permitting the ends to overlap the edge of the window frame. (314)

To Locate Fish By Sound

Fishermen in British Columbia waters may soon seek their fish by sound. This method of locating large schools of fish has proved effective in Norwegian waters and is to be tried out in the herring fishing industry of British Columbia. A fish canning company is fitting a 45-ft. boat with an echo sounding device at a cost of $4,000 to $5,000.

Originally devised to aid ships in shallow waters, this echo sounder has been improved until it will record a whisper, and it is used in detecting the presence of submarines in wartime. As used by fishermen, the device will locate a large mass, or school, of fish by the sound reflected from the body of fish, and the distance to the catch will be indicated by a meter. (335)

Progress Reported in Guayule Rubber Project

Progress in the expansion of the guayule rubber production program under the several cooperating agencies of the U. S. Department of Agriculture has exceeded early expectations. Recent developments by the Department's Emergency Rubber Project are in accord with the findings of the Baruch committee which recommended "that this program be given every possible support as the principal source of crude rubber which could not be lost to us short of conquest of American territory."

The Forest Service, which is administering the production phases of this emergency program, will start to mill in mid-January the older shrubs previously reserved for seed collection.

This winter the Forest Service factory will manufacture 600 tons—only a fraction of the nation's needs—but the first natural rubber produced in the United States since the beginning of the war. Plantations being established this winter are expected to yield about 21,000 tons from the harvest starting late in 1944. The planting and harvesting schedule is planned to produce about 80,000 tons annually thereafter. Even the maximum production mentioned, however, is small in comparison with the country's normal peacetime consumption of 700,000 tons of rubber a year. (315)

Boost for Canned Milk

When properly prepared, canned and dried milk retain the full nutritional value of the fresh milk, it is revealed by studies in Switzerland. This is especially true of the sweetened products. Even vitamin C, in spite of its sensitivity, is retained by the best modern methods. Furthermore, uniform composition, freedom from pathogenic organisms and fine casein dispersion make canned and dried milk products more digestible than fresh milk. (316)

"Utility" Paint Proposal Renewed in Britain

Since domestic paints have become almost unobtainable in Britain, discussions on the advisability of producing a limited amount of a "utility" paint are again in progress between the Board of Trade and the Paint Federation. A recent statement in the House of Commons revealed that a provisional arrangement has been made for a supply of linseed oil for such paint, and steps are being taken for the release of certain quantities of other necessary raw materials. The British paint trade believes that the "utility" paint, when eventually produced, will be made in three or four shades. (317)

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

An Oasis in the Desert

A 2½-gallon water canteen produced by National Can for our armed forces.

Brine Preservation of Vegetables

Because of the shortage of containers, experiments are being conducted, with indications of success, in the brine preservation of snap beans, peas, lima beans and other vegetables. The process, similar to that employed in brine curing of pickles, has been under study at North Carolina Agricultural Experiment Station for several months. The research is conducted cooperatively by the experiment station and the U. S. Department of Agriculture.

If successful, the brine preservation of vegetables would help to build up food supplies to meet wartime needs of the United Nations and would save those portions of the crop generally lost through seasonal overproduction. (318)

Lactic-Acid Lacquers

Efforts to devise lacquer substitutes for tin containers, through the use of lactic acid obtained from the whey that is a by-product in cheese and casein factories, are making progress. In experimental coating of steel milk cans this lacquer has proved highly successful, also in coating evaporated milk cans. Previously dairy scientists had developed lacquers suitable for coating wood, paper, glass and other substances. Some of these lactic-acid lacquers doubtless will be useful to various branches of the canned food industry. (319)

* * *

Approximately one-sixth of all gasoline consumed in the U. S., 5,000,000,000 gallons, goes to farmers. They also use large quantities of lubricating oils and greases, estimated at 138,000,000 gallons and 2,000,000 pounds respectively.

Technical Topics

INSECTICIDES—The effectiveness of attractants and repellents for insects and animals can be increased substantially by the incorporation into the formulas of minute quantities of glandular extracts of animals such as the skunk, the muskrat, etc. Musk odor serves as a particularly powerful lure in insect attractants. (320)

SURGERY—A British publication reports that wire of corrosion-resistant alloy steel is being used by Swedish surgeons in place of silk or catgut. (321)

CAROTENE DETERMINATION in plant tissue by a rapid chromatographic method was described recently in a project completed in the Eastern Regional Research Laboratory of the Department of Agriculture. The method can be used for both fresh and dehydrated materials. (322)

POTASSIUM CARBONATE is now being produced in Germany from a mixture of potassium sulphate, lime and coke. The sulphate and lime are reacted at elevated temperatures in the first step of the process, to produce a concentrated solution of potassium formate containing calcium sulphate in suspension. The liquor is then evaporated to dryness and the residue calcined in a surplus of air. (323)

ROSINATED CALCIUM LAKES are improved in tinctorial properties, mass-tone, and strength by the addition of small amounts of sulphuric acid esters of the higher fatty acids during processing, it is claimed in a recent British patent. (324)

TETRAETHYLTHIURAM MONOSULPHIDE has been found an effective agent for the treatment of scabies in Britain. (325)

LINSEED OIL — Lend-Lease has been shipping large quantities of linseed oil to Russia to be used principally as food. The hydrogenation of such oils to harden them is entirely feasible, and experiments have disclosed that an excellent shortening can be made from oil either wholly or partly linseed. (326)

NEW FOOD SHORTENING—By a recently developed process, tasteless and odorless shortening with a vitamin content is made by hydrogenating fish oils, adding them to vegetable oil and treating further by hydrogenation. (327)

PEELER — Developed for a marmalade manufacturer, a lathe-like peeler has been patented which removes from citrus fruit the outer surface of the peel containing the bitter cells. (328)

MEAT PRESERVATION—To inhibit deterioration in meat products, a method has been developed for subjecting the meat to inert gas under greater than atmospheric pressure. (329)

VEGETABLE DISCOLORATION — Discoloration of the cut surfaces of fruits and vegetables can be prevented by dipping the pieces in dilute thiosulphate solutions. The method has recently been patented. (330)

SYNTHETIC RESIN IDENTIFICATION by means of schematic flame and olfactory tests was described recently. (331)

BISMUTH SUBSALICYLATE has been found effective for combatting blue mold or downy mildew disease in tobacco. (332)

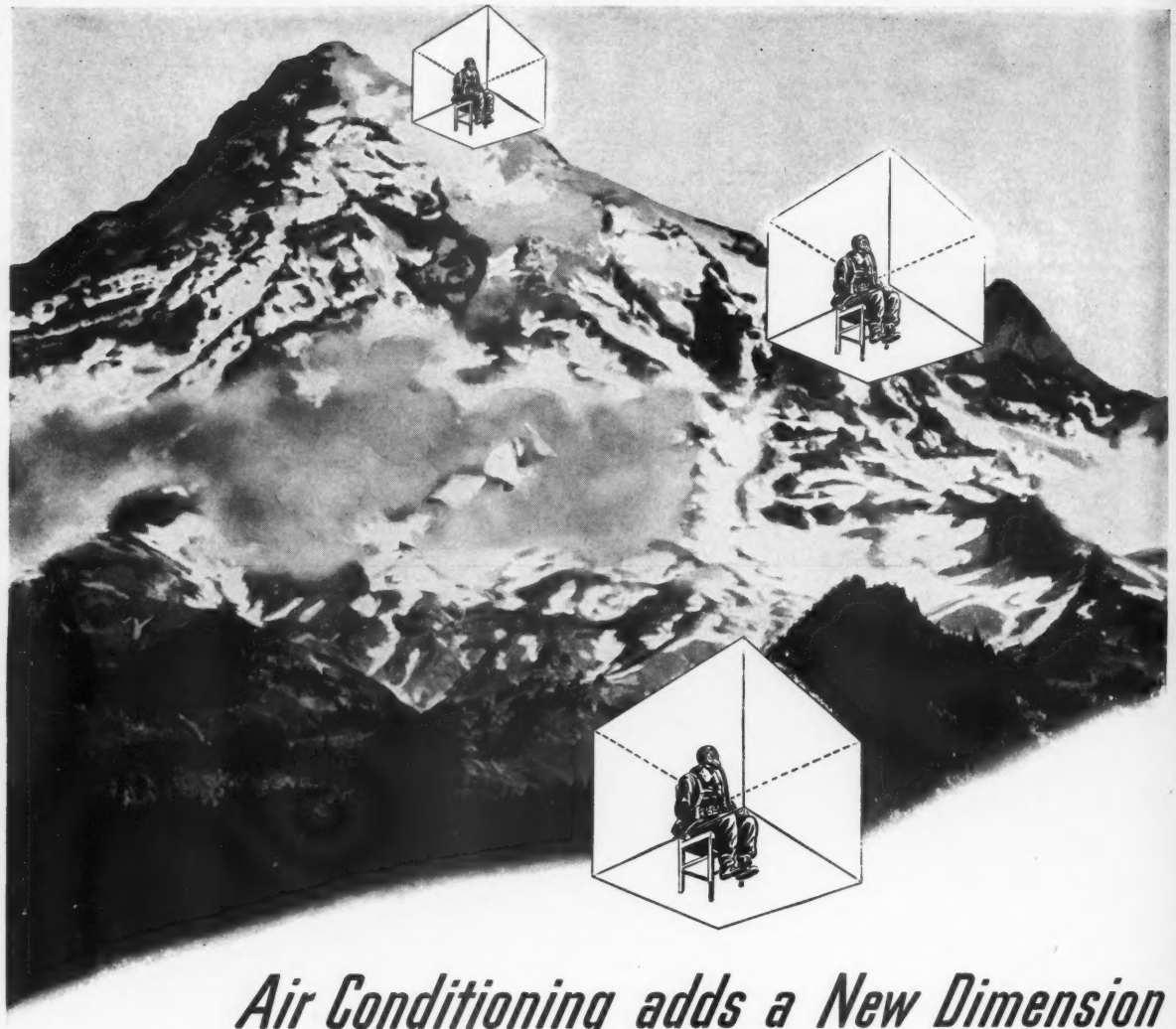
LIVER can be dried and reduced to a fine brown powder by a recently developed process. When so processed, it is said that it can be preserved indefinitely without refrigeration and occupies only about one-fifth the normally required space. (333)

TARTAR EMETIC SPRAY RESIDUES on citrus plant materials may be rapidly determined by a recently developed analytical method based on iodometric titration. The iodometric procedure eliminates the necessity of ashing the leaf materials, as was done in the modified Gutzeit method formerly employed for determining the antimony content of the tartar emetic. (334)

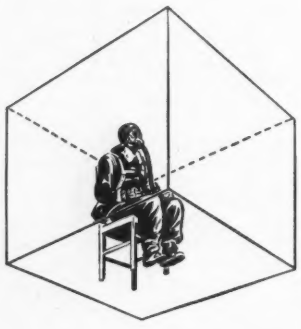
CHROME YELLOW, with a solubility of only 1.75 percent, for use as a pigment in paints, inks and other materials is now being offered by an American company. The new pigment is especially intended for use in camouflage coatings, since the low solubility reduces the possibility of lead being assimilated to a dangerous degree during the spray-painting of war materials. (335)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)



Air Conditioning adds a New Dimension



Originally, people thought of air conditioning only in terms of *temperature.* It cooled the air on a warm day. Temperature was air conditioning's *first* dimension.

Then came a second dimension . . . *movement.* Air had to be moved . . . under control.

Then a third dimension . . . *humidity* . . . control of the amount of moisture in the air.

Then, air conditioning took on a fourth dimension . . . *dust exclusion.*

And now, air conditioning is cooperating in an important new field . . . controlled air *pressure.* This is needed for the testing of men and equipment under the conditions of stratosphere flying.

Today, air conditioning faithfully reproduces *exact climates* . . . from the parched heat of the Sahara to the frigid cold of Northern Russia. The equipment that does this must be more flexible, more compact than ever before . . . with precise control of temperature and humidity.

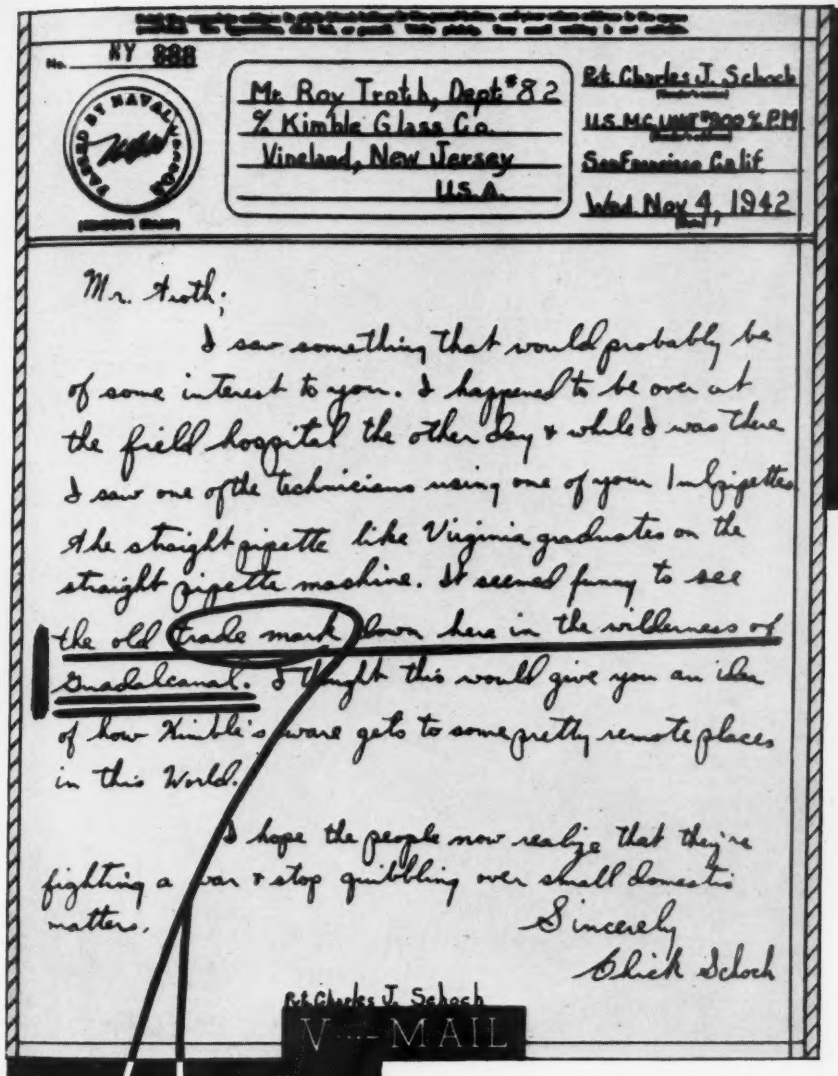
This equipment . . . from General Electric . . . speeds up America's war effort. When peace comes, this improved air conditioning will become available for many new uses.

Then, as now, look to General Electric as the outstanding supplier of up-to-date air conditioning and industrial refrigeration equipment of all kinds.

Air Conditioning and Commercial Refrigeration Department, Division 434, General Electric Company, Bloomfield, New Jersey.

Air Conditioning by

GENERAL ELECTRIC



No. KY 888

PASSED BY NAVAL CENSOR

Mr. Roy Troth, Dept #82
% Kimble Glass Co.
Vineland, New Jersey
U.S.A.

Pvt. Charles J. Schoch
U.S. MC [illegible] % PM
San Francisco Calif
Wed Nov 4, 1942

Mr. Troth;

I saw something that would probably be of some interest to you. I happened to be over at the field hospital the other day & while I was there I saw one of the technicians using one of your Mohr pipettes the straight pipette like Virginia graduates on the straight pipette machine. It seemed funny to see the old trade mark down here in the villainess of Guadalcanal. I thought this would give you an idea of how Kimble's ware gets to some pretty remote places in this World.

I hope the people now realize that they're fighting a war & stop quibbling over small domestic matters.

Sincerely
Chick Schoch

Pvt Charles J. Schoch
V-MAIL

RETESTED K EXAX BLUE LINE U.S.A.

NEUTRAGLAS K

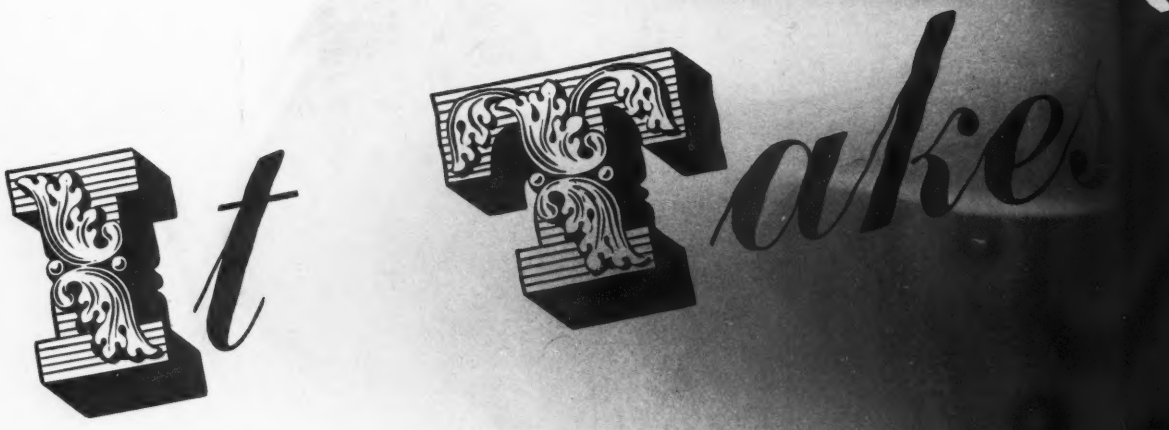
Thanks, Chick, for Letting Us Know

Virginia is Proud of Her Part, and We All Share Her Pride

Kimble laboratory glassware and containers for plasma and vital drugs are serving our armed forces, even in the most remote places. Like this pipette, they carry the trade mark which symbolizes the Kimble slogan . . .

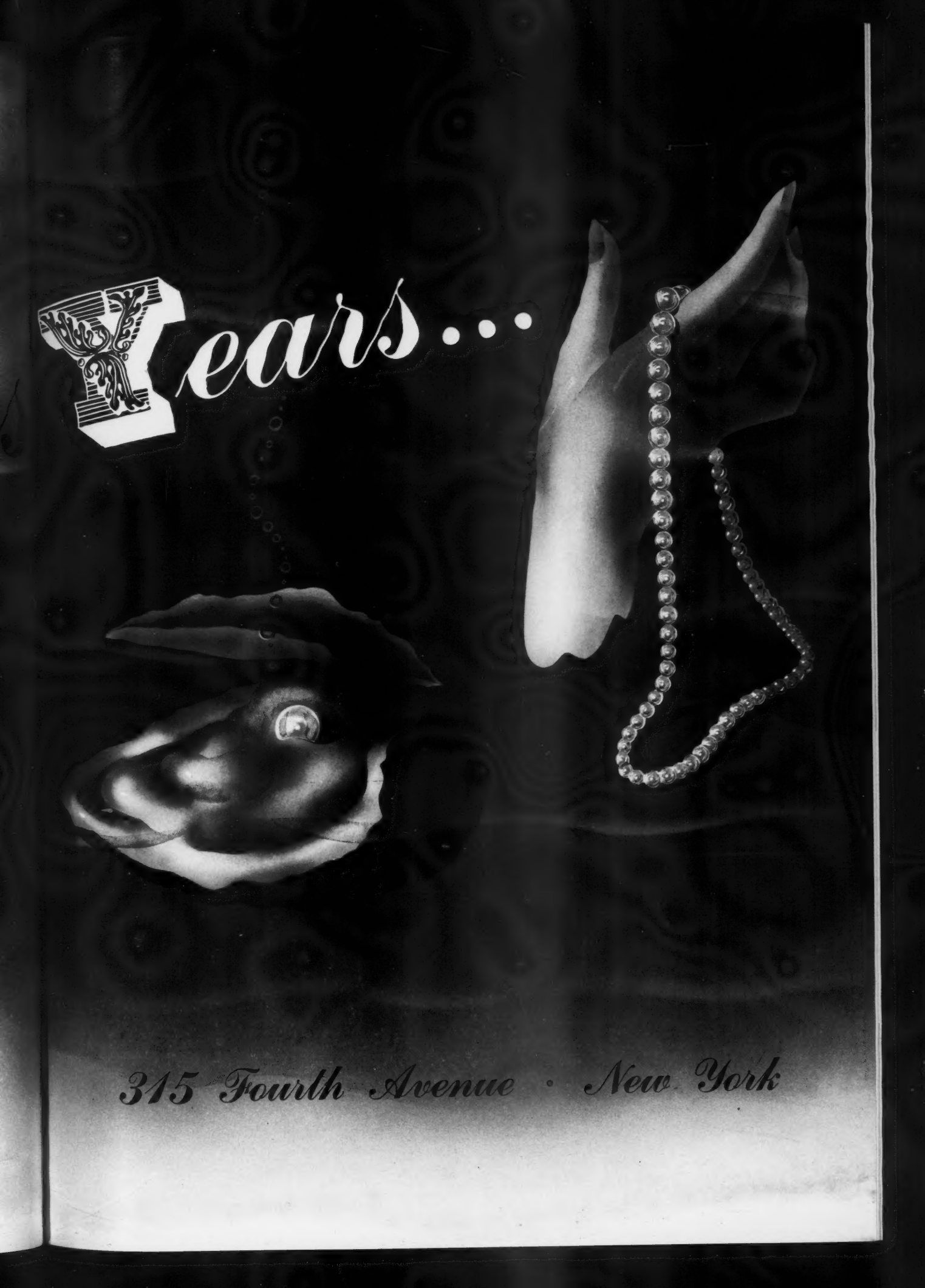
"KEEP 'EM LIVING"

• • • *The Visible Guarantee of Invisible Quality* • • •



THE IRIDESCENT BEAUTY OF THE PEARL CANNOT BE CREATED OVERNIGHT—SO TOO, WITH PERFUMES. THE ABILITY TO CREATE PERFUMES OF DISTINCTION REQUIRES THE UNDERSTANDING THAT ONLY YEARS OF EXPERIENCE CAN PROVIDE. GOOD PERFUMERS ARE SKILLED SPECIALISTS AND THE PERFECTION OF THEIR CREATIONS IS THE RESULT OF YEARS OF EXPERIENCE.

van Ameringen · Haebler, Inc.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THE INGREDIENT that isn't specified

in her doctor's prescription...or her favorite toothpaste

In every pharmacists' prescription room there's a supply of ESSENTIAL OILS, BALSAMS AND FLAVOR OILS. In the great majority of the nation's 65,000 drug store and hospital pharmacies these oils and balsams are packaged in *familiar* amber bottles . . . bearing the *familiar* M M & R LABEL.

It is the M M & R extra quality factor that is the "UNSPECIFIED INGREDIENT" thousands of pharmacists add to doctor's prescriptions.

In equal measure, M M & R Quality Essential Oils, Balsams, Basic Perfume and Flavor Materials, are the "UNSPECIFIED INGREDIENT" . . . *the extra quality ingredient* added to provide individuality of flavor and odor to hundreds of products as commonplace and as popular as best-selling tooth pastes.

In this time of great stress and national emergency it becomes M M & R's solemn duty to keep the necessary Essential Oils and Balsams flowing without interruption to the nation's civil pharmacies in every community of the land and to the important Army, Marine and Navy pharmacies on land and afloat.

To the hundreds of manufacturers of Drugs, Cosmetics and Allied Products now faced with many new problems, M M & R promises full cooperation.

M M & R ESSENTIAL OILS
Balsams, Basic Perfume & Flavoring Materials
HELP BUILD PRODUCT PREFERENCE

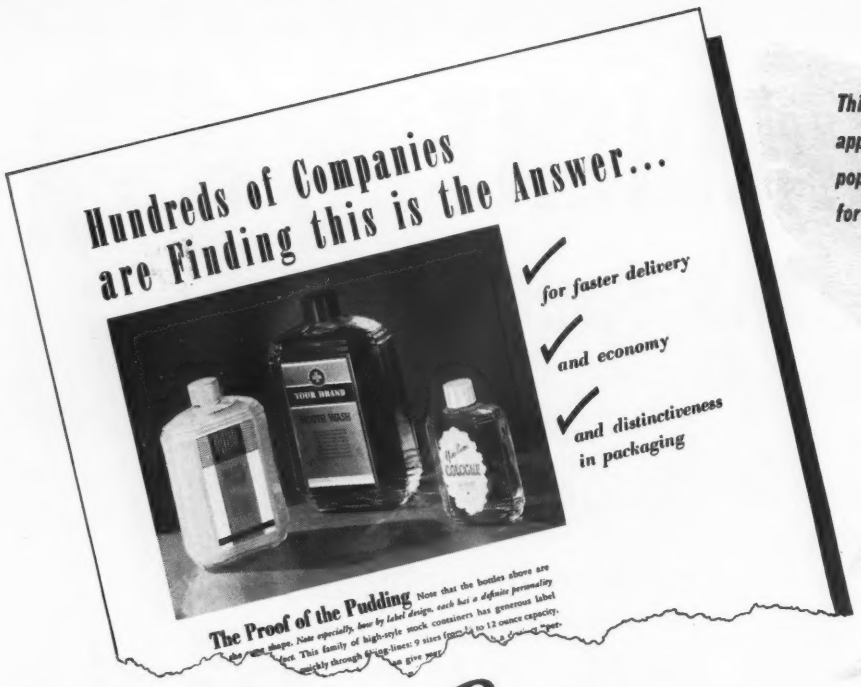
M&R MAGNUS

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS, AROMATIC CHEMICALS, BASIC PERFUMES, FLAVORING MATERIALS . . . SINCE 1895

16 DESBROSSES STREET, NEW YORK CITY • 221 NORTH LASALLE STREET, CHICAGO

OFFICES IN PRINCIPAL CITIES • IN CANADA: RICHARDSON AGENCIES LTD., 454 KING ST., W., TORONTO



This Owens-Illinois advertisement appeared in May, 1941, showing a popular stock bottle individualized for three different products.

Below are four stock bottles with infinite possibilities for today's packaging needs. Products of the Duraglas technique of glassmaking, these famed packages are tops in sparkle, styling, consumer-appeal.

Just as true today!

From left to right: 15 oblong in sizes from ¼ to 12 ounces; New 15 Oblong in ¼ to 16 ounces; Round Toilet in 1 to 21½ ounces; and Taper Round in ½ to 16 ounces.

For years, Owens-Illinois has been showing manufacturers that a *forceful* package need not be *expensive.*

Today, the inherent advantages of a handsome stock bottle are more apparent than ever: dependable delivery, versatility, economy. Designers of the Owens-Illinois Packaging Research Division have demonstrated that skillful labeling can transform our striking stock bottles into countless *individualized* packages.

Packaging Research Division facilities, available to all users of Duraglas containers, have provided the answers to many problems, some of which you may have been looking for.

Owens-Illinois Glass Company, Toledo, O.

OWENS-ILLINOIS

GLASS COMPANY · TOLEDO, OHIO

Sitting Under The Apple Tree---

Yes, she'll be waiting under the apple tree . . . and as beautiful as ever, thanks to the ability of the American cosmetic industry to carry on under adverse circumstances. Our women are doing *their* bit too . . . in the home, on the farm, in defense work, in the service . . . yet beauty is still of *vital* importance to them. Every woman owes that much to her man on the fighting front . . . and we in the industry will continue to exert every effort to see that we never let her down!

Furlager Mfg. Co. Inc.
Powder Puffs and
Perfumer's Specialties

Paris Cosmetics Inc.
Ultra Fine Cosmetics
Exclusively under Private Label

116 WEST 14th STREET, NEW YORK, N. Y.

A PRESERVATIVE NOT ON PRIORITY

BUTOBEN

Reg. U. S. Pat. Off.

Have current shortages of materials made it necessary for you to revise your formulas requiring a preservative? Or are you, perhaps, looking for a more potent one?

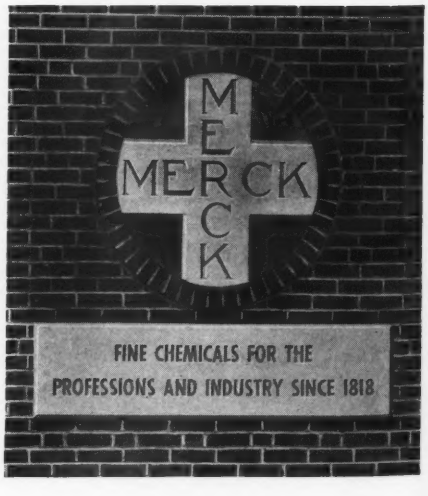
BUTOBEN (*n*-Butyl Parahydroxybenzoate Merck), an antiputrefactive and antifermentive agent, is an effective, nontoxic preservative in various preparations, and can, in most instances, be used in place of some of the preservatives which now may be unavailable.

BUTOBEN can be used in acid and neutral products, as well as in moderately alkaline media. It is economical because of the small quantity required (2/100 of 1%), *i.e.,* only 1 ounce is required to preserve 35 gallons of a preparation. Suggested uses are in gum solutions for hairwave setting, and various types of liquid preparations, including face and hand lotions, cosmetic creams, medicinal elixirs, tonics, certain eye lotions, and emulsions.

BUTOBEN, while an excellent preservative for the aqueous phase of cosmetics, does not prevent rancidity of oils and fats, as this is not caused by micro-organisms, but by hydrolysis and subsequent oxidation, and for which purpose an antioxidant is required.

As many cosmetic and medicinal preparations are composed of several ingredients, some of which may be incompatible with certain preservatives, we suggest that you consult the Merck Chemical Service Department regarding your manufacturing problems and requirements.

Samples of BUTOBEN will be supplied to manufacturers on request.



MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Cal.

In Canada: MERCK & CO. Limited, Montreal and Toronto

YOU WILL FEEL RIGHT AT HOME

Interestingly enough, it's usually a lot easier to do things right than it is to do them wrong . . . once you've learned how.

Yet, whether in an individual or an organization, unless there is a deeply-rooted Pride in Performance, there ordinarily is no urge to determine whether further improvement is possible.

Down through the years Carr-Lowrey has ever sought to develop the art of glass making to the highest practical point. Constant checking and rechecking of methods and workmanship, painstaking attention to the most minute details, and insistence upon absolute accuracy at all times . . . these are the things with which we are continuously concerned.

So, if a thoroughly dependable glass container for a drug, cosmetic, household or food product is your need—and if your appreciation of fine craftsmanship makes you fussy about quality—we invite your consideration . . . for in doing business with us we are fully confident that *you will feel right at home!*

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. *New York Office:* 500 FIFTH AVENUE *Chicago Office:* 1502 MERCHANDISE MART

Tops, too, for capsules, crystals, granules, pills, tablets and a variety of other drugs and sanitary chemicals are the Anchor Hocking Wide Mouth Rounds. Twenty-one sizes, in capacities ranging from 3 cc to 950 cc. Available in amber or crystal glass.

To provide these and other drug and chemical containers with an airtight, leakproof seal, Anchor Hocking offers five metal and molded closure types—the Anchor C.T., NKCT, Tricon, Amerseal and Anchor Molded Cap. Each is specially adapted for the sealing needs of particular products.

Remember—when you get both containers and closures from Anchor Hocking, you enjoy the advantages of a single supply source: undivided responsibility for the complete package, faster service, synchronized shipping!

J. O. HILL, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 24 years.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION LANCASTER, OHIO

We're Busier than Ever

Delivering the Goods!

These are mighty busy times at the Allied Plant.

There are orders for the Armed Forces to be filled, also the orders of our customers who by their continued patronage and loyalty have earned a consideration we are privileged to honor. And these Civilian orders are mighty important orders, too, for they are playing their share in the vital role of sustaining a high morale on the home front.

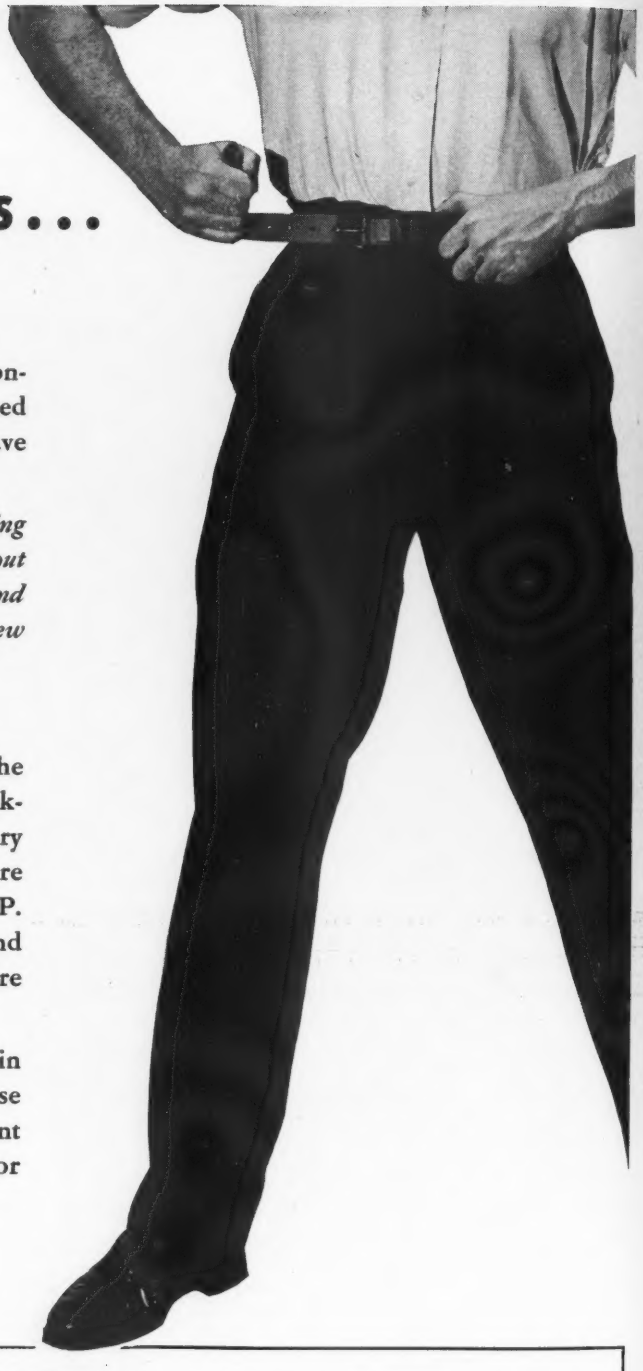
Therefore, the servicing of *new* accounts in our present production schedule is not always physically possible. For this reason we urge that prospective clients talk over their requirements with us first to avoid possible disappointment and misunderstanding. Such discussion, to be sure, may not be a guarantee that their orders will be filled, but it is a guarantee of Allied fairness and willingness to consider your problem, and whenever possible, help you solve it.

ALLIED PRODUCTS, Inc. • 30 Rockefeller Plaza, N. Y. C.

Private Brand Specialists • Makers of the world's finest cosmetics and toiletries

Plant and laboratories • Suffern, New York • 1015 St. Alexander St., Montreal, Quebec

as we tighten our belts . . .



Cheerfully—eagerly, because it's our contribution to Victory, all of us have accepted the fact that for the duration, we will have to tighten our belts and "do without."

But typical American know-how is licking many of Industry's problems created by all-out war. We are discovering how available and familiar materials can be put to work on new uses—with results amazingly satisfactory.

* * *

Along with every refinery and plant in the American Petroleum Industry, we are making Government cooperation for Victory our first consideration. However, we are still able to supply quantities of our U. S. P. and Technical White Mineral Oils and U. S. P. Petrolatums. Some of them are listed below.

Equally important, we can be helpful in exploring with you the adaptation of these materials to the solution of your present problems and in assisting you to plan for peacetime production.

WHITE MINERAL OILS

KAYDOL U. S. P. Heavy
ORZOL U. S. P. Heavy
PURITAN U. S. P. Heavy
ERVOL U. S. P. Light
BLANDOL U. S. P. Light
CARNATION
KLEAROL

PETROLATUMS U. S. P.

TYPE I: *Medium Consistency—White Protopet—Yellow Protopet and other colors*

TYPE II: *Soft Consistency — White Fonoline — Yellow Fonoline*

TYPE III: *Medium Consistency With High Melting Point —White Perfecta*

SPECIALTIES

FYBRENE WAX—Amorphous (micro-crystalline) wax for pharmaceutical and cosmetic formulation.

SONO-JELL—Complete series for liquefying cleansing creams, pomades, ointments, etc.

DEO-BASE—Light hydrocarbon distillate refined to complete freedom from kerosene odor.

L. SONNEBORN SONS, INC.

Refiners of White Mineral Oil and Petrolatum. Refineries: Petrolia and Franklin, Pa.

NEW YORK · CHICAGO · BALTIMORE · PHILADELPHIA · LOS ANGELES · Stocks Carried in Principal Cities

Southwestern Distributors: Sonneborn Bros., Dallas, Texas

Highest Award

1942 ALL-AMERICA PACKAGE COMPETITION

Take good taste, technical excellence, understanding of display and merchandising values —add them together and you have prize-winning packages like Fleetwood and Spud.

In the field of tobacco in the 1942 All-America Package Competition, they were first in the eyes of the judges—but better still, they are getting a big hand at the tobacco counters of America.

For both these accomplishments, *congratulations to The Axton-Fisher Tobacco Company!*

Naturally, we at Gardner-Richardson feel good about all this, too, for it was our privilege to produce the Fleetwood and Spud cartons.

The paperboard used in these cartons is our revolutionary new *Coated* Lithwite; the printing is an example of the every-day high standards which exist throughout the Gardner-Richardson plants.

The result is a sales-winning combination, as many large users of folding cartons know.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

GARDNER-RICHARDSON — FROM PULP TO FINISHED PRODUCT — ENGINEERED PRECISION

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

WHEN EXTRA VALUE* COUNTS SO MUCH...
*THE "BAKER'S DOZEN"... TWELVE PLUS ONE... IS A TRADITIONAL SYMBOL OF EXTRA VALUE

BUY WISELY—BUY THE BEST—BUY GIVAUDAN

In these days of growing scarcities and narrowing profit margins, it becomes more essential than ever to obtain the extra value of assured quality with each dollar spent.

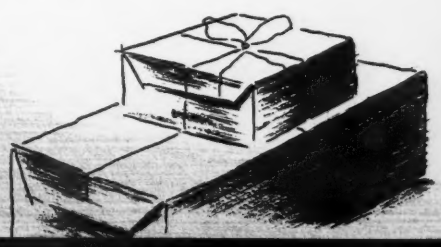
The high quality identity of Givaudan aromatics not only insures full value received, but being *all-quality*, the Givaudan product goes farther.

So buy wisely. Your dollar buys *more* when you use Givaudan selected quality Aromatic Chemicals, Artificial Essential Oils, and Compounded Perfumes.

GIVAUDAN-DELAWANNA, INC.

330 WEST 42ND STREET, NEW YORK, N. Y.

OUR PLANT FACILITIES ARE AVAILABLE FOR ANY FURTHER CONTRIBUTION WE MAY MAKE TO PRODUCTION OF MATERIALS FOR THE WAR EFFORT



"AS USUAL"

Through the years the makers of Maryland Glass have built their business and their reputation through friendly, personal effort to help customers with their packaging problems . . . and through a sincere, honest endeavor to provide good products and good service. In the glass industry, as in most others, "business as usual" is out for the duration. But the same friendly, personal effort continues "as usual" at Maryland Glass. Even war can't change that!

Maryland

FLINT BOTTLES AND JARS

MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . . New York: 270 Broadway . . . Chicago: Berman Bros., 1501 S. Laflin St. . . . St. Louis: H. A. Baumstark, 4030 Chouteau Ave. . . . Memphis: S. Walter Scott, 435 S. Front St. . . . Kansas City, Mo.: Aller Todd, 1224 Union Ave. . . . Cincinnati: J. E. McLaughlin, 401 Lock Street . . . San Francisco: Owens-Illinois Pacific Coast Company.

The smooth, rich chocolate syrup supplied by The Wilbur-Suchard Chocolate Co., Inc., has helped soda fountains all over America build an enviable reputation for delicious frozen refreshments. Today, like many other familiar products, Wilbur's Syrup of Chocolate is packed in glass containers and securely sealed with Crown Screw Caps. ◆ If you, too, are turning to glass containers in order to conserve highly critical materials, you will find Crown Closures available in a wide variety of types and sizes to meet your own particular wartime needs.

CROWN CORK AND SEAL COMPANY

World's Largest Makers of Closures for Glass Containers

BALTIMORE, MARYLAND

CROWN CLOSURES

CROWN'S WARTIME POLICY: *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*

SECOND FRONT

★

America's first front — its unceasing war against the enemies of democracy—has commanded most of the newspaper headlines. But there is a second front—a civilian front—which is in many ways just as important. And thousands of manufacturers today are finding themselves hard-pressed to keep up production of the goods and services this front demands.

In many cases, their own plants and men are turning out the munitions of war; to supply their civilian markets, they must turn to outside equipment, outside sources of trained men.

You will find such equipment, and such trained men in our research and manufacturing organization. Our three strategically located plants, working hand in glove with our research department, which maintains a staff of more than 70 scientists, are in a position to help you with your specialized production, and to assist you through reformulation and replacement of scarce materials.

Moreover, our services to you include packaging, testing, and observation of results, so necessarily a part of the cosmetic and allied industries. We welcome an opportunity to send you full details of these services, and to show you how they may complement your own facilities at this time.

EVANS CHEMETICS, INC.
250 East 43rd Street, New York
Telephone: Murray Hill 3-0077

EVANS CHEMICALS, LTD.
Boreham Wood, Herts, England
for your English post-war production

★ *Manufacturing Chemists with Unique Research Facilities* ★

QUALITY
ABOVE ALL ELSE

SINCE — 1885

AMERICAN DISTILLED OILS
LIQUID RESINS

OUR FACTORY PRODUCTS

GEORGE LUEDERS & CO.

427-429 WASHINGTON STREET NEW YORK

BRANCHES

CHICAGO • SAN FRANCISCO • MONTREAL

Resident Agents: SAINT LOUIS • PHILADELPHIA

INDOLINE

Not a substitute for INDOL but a product superior in

LASTING QUALITY
SWEETNESS and
PERFUME VALUE

Please Write for Free Sample

Norda

ESSENTIAL OIL AND CHEMICAL COMPANY, INC.

NEW YORK OFFICE
601 WEST 26TH STREET

CHICAGO: 325 W. HURON STREET
LOS ANGELES: 2800 E. 11TH STREET
ST. LOUIS: 1123 WASHINGTON AVE.
FRANCE: PLACE VENDOME, 8, PARIS
ST. PAUL: 253 E. 4TH STREET
HAVANA, CUBA: SAN LAZARO #671
CANADA: 119 ADELAIDE ST., W. TORONTO
135 COMMISSIONERS ST., WEST, MONTREAL
ENGLAND: 17 CREECHURCH LANE, LEADENHALL ST., LONDON, E. C. 3

GO NATIVE . . .

Stockingless legs, smoothly tinted to simulate silk, race into new popularity. KOHNSTAMM'S SUN TAN SHADES are your color basis for a superb formula to meet this big demand. Ask us to show you how you can meet it profitably — and quickly!

MANUFACTURERS OF A COMPLETE LINE OF CERTIFIED DRUG AND COSMETIC COLORS. ALSO, INORGANIC COSMETIC COLORS (NON ANILINE), PURIFIED TO MEET CERTIFIED COLOR SPECIFICATIONS FOR HEAVY METALS.

H·KOHNSTAMM & COMPANY, INC.

First PRODUCERS OF *Certified* COLORS

- 89 PARK PLACE, NEW YORK
- 11-13 E. ILLINOIS ST., CHICAGO

Established 1851

H·KOHNSTAMM & CO., INC. · THE ATLAS LABEL PROTECTS YOU · STRENGTH · UNIFORMITY · PURITY · TRADE MARK · ESTABLISHED 1851 · NEW YORK · CHICAGO

ATLANTA	CINCINNATI	DETROIT	NEW ORLEANS
BALTIMORE	CLEVELAND	LOS ANGELES	PHILADELPHIA
BOSTON	DALLAS	MINNEAPOLIS	ST. LOUIS

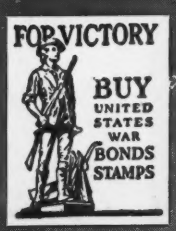
POTASSIUM IODIDE

THYMOL IODIDE

SODIUM IODIDE

IODOFORM

Specify NYQ *on your orders*



NYQ

GENERAL OFFICES
99-117 North Eleventh St.
Brooklyn, N. Y.

ST. LOUIS DEPOT
915 Market Street
St. Louis, Mo.

Symbol of *Quality*

THIS NYQ LABEL CARRIES WITH IT SIXTY-SEVEN YEARS OF EXPERIENCE

BLOW HEAD PRESSURE-21"

. . . a phrase from the strange language that helps make better glass

THIS IS JOSEPH HURST. All day long in one of Armstrong's plants, he reads things like "Blow Head Pressure—21. Drop in Blank — Early. Head Valve Set — Open." Phrases like these mean little to the layman, but to Joseph Hurst they mean the difference between ordinary glass and Armstrong's Glass. They tell him how to make every one of more than 45 adjustments on each glass machine in operation.

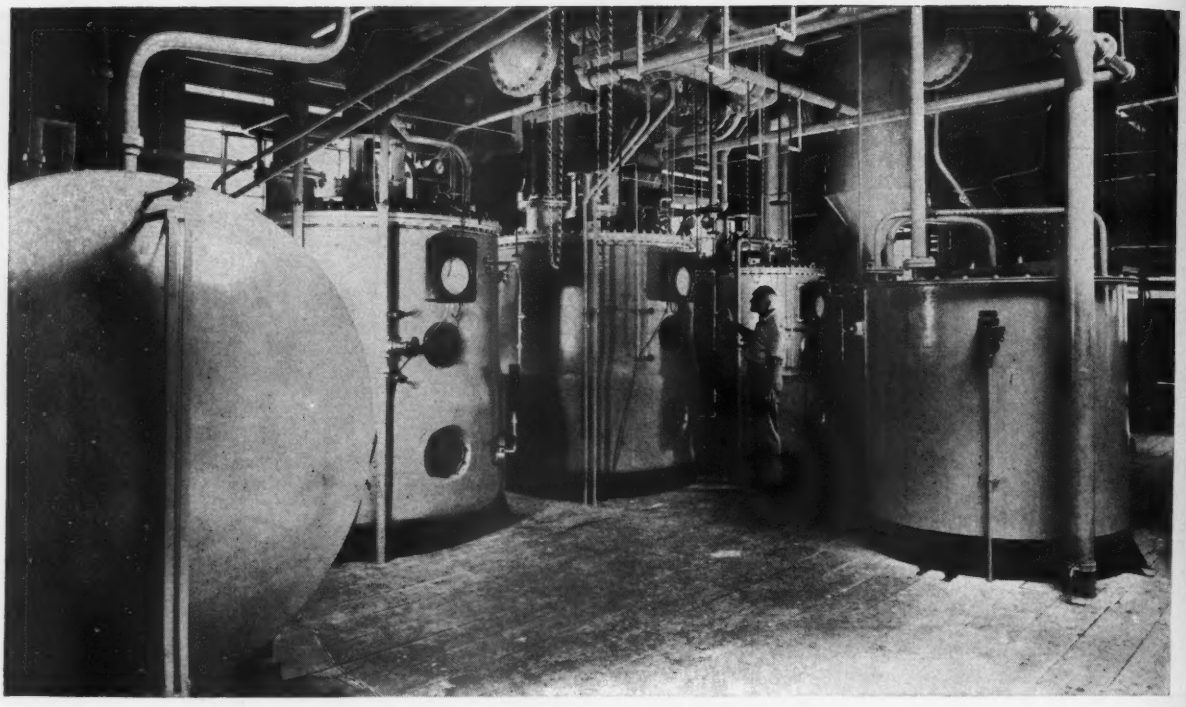
The card from which he reads is a history of previous runs of similar bottles. By following its strangely worded directions, he makes sure that the complicated machine settings are exactly right for the particular ware being manufactured.

Thus his special knowledge, and the knowledge of the men and women with whom he works, means that you can expect the same top-quality, the same consistent performance, from every run of Armstrong's Glass you order.

The story of Armstrong's Glass and of the men and women who make it is told in a new booklet, "Men and Glass." For your free copy, write Armstrong Cork Company, Glass and Closure Division, 3804 Jackson St., Lancaster, Pa.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**



Industrial Products by Fermentation Processes

• Noah has received credit for one of the earliest recorded chemical discoveries. He found that under some conditions grape juice underwent a change and the resulting product, when imbibed, produced a pleasant physiological effect entirely different from that which the original juice gave. Unfortunately, as a result of continuing his testing "not wisely but too well", he has received some undesirable notoriety.

It was also observed at an early date that sometimes fruit juices underwent another type of change which resulted in the development of sourness. Milk was also found to become sour on storage. Since the resulting products found practical use, empirical methods of regulating these alterations were developed.

Not until the investigation of Pasteur was it recognized that these changes were due to the growth of various microscopic organisms. It had been noticed earlier, however, that the development of visible organisms, termed molds, also resulted in changes of the medium on which they grew.

Since Pasteur a large number of experimenters have developed methods not only of preventing, but also of encouraging the growth of these organisms, both visible and microscopic. Others have studied the chemical changes brought about by them. It is now recognized that these reactions are similar to, or in many cases the same as, those occurring during the development of a fruit or vegetable and are natural vegetative processes.

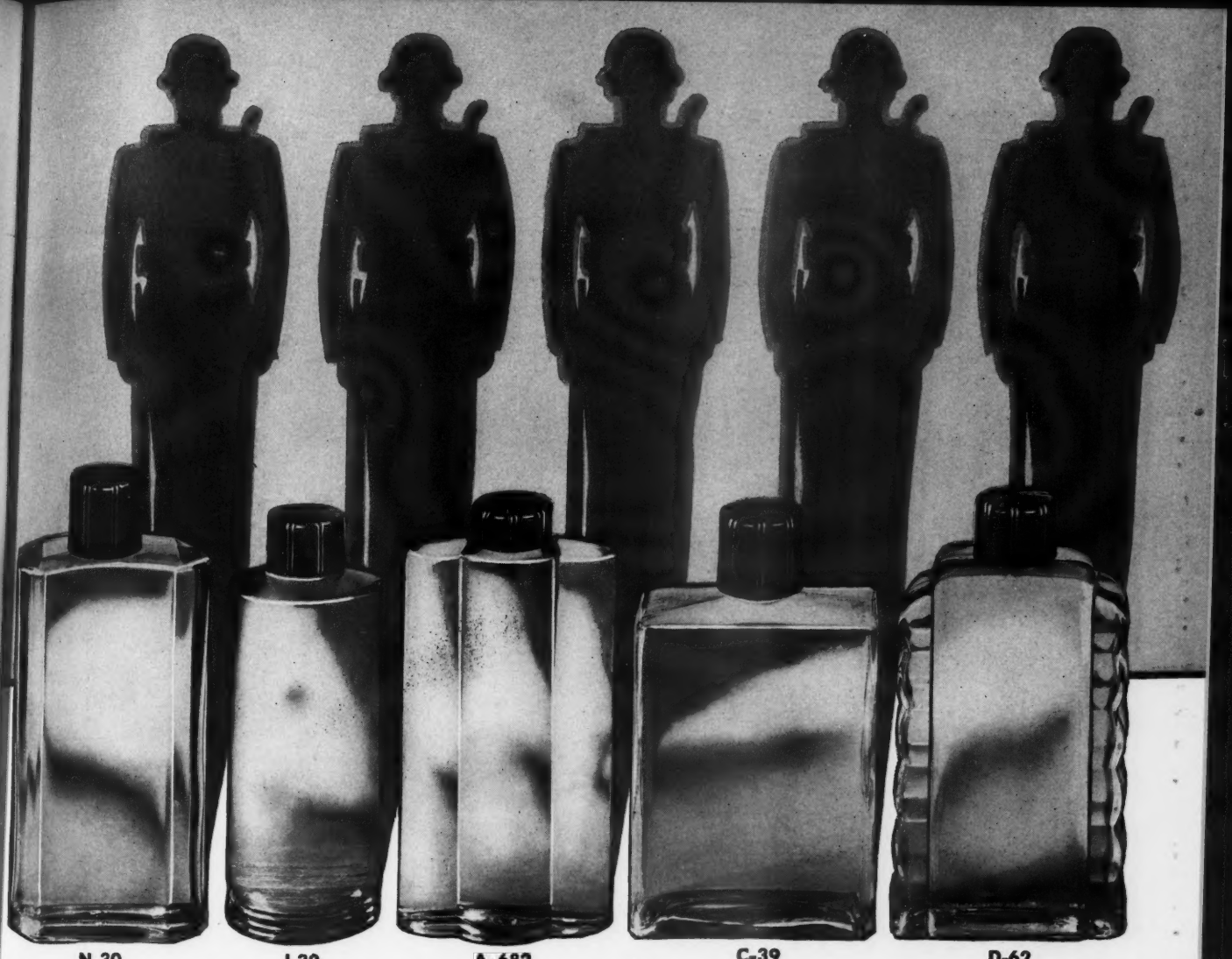
As a result of some of these researches a considerable variety of products of industrial importance is now being manufactured by the careful cultivation of a number of these organisms. Since this is a comparatively new field, it can safely be assumed that with time the number of compounds produced by such methods will be greatly enlarged. The probability of this is increased by the fact that the raw materials for such processes are generally of American agricultural origin, thus removing any dependence on foreign products.

Chas. Pfizer & Co., Inc. has been one of the leaders in this field and is at present producing Citric Acid, Gluconic Acid, Fumaric Acid, and Oxalic Acid by such methods. From these acids a wide variety of derivatives is being manufactured. A well-trained research staff is engaged in the improvement of present processes and in the development of new products. Results in many of these latter investigations indicate that products of possible importance in a variety of fields will in time be made available.

MANUFACTURING CHEMISTS • ESTABLISHED 1849

Chas. Pfizer & Co., Inc.

81 MAIDEN LANE, NEW YORK • 444 W. GRAND AVE., CHICAGO, ILL.



N-30 J-32 A-682 C-39 D-62

ATTENTION!

Yes sir, these STOCK BOTTLES *certainly do have* ATTENTION VALUE

In times like these, it's a wonderful help for you to be able to draw upon Swindell's great assortment of smartly designed stock bottles. The five illustrated are "headliners"--but there are many more to choose from. Write for our catalogue.

Illustrated above:
N-30: ⅛ oz. to 8 oz.
J-32: ½ oz. to 16 oz.
A-682: ⅛ oz. to 4 oz.
C-39: ½ oz. to 16 oz.
D-62: ½ dr. to 8 oz.

SWINDELL BROS.
BALTIMORE, MARYLAND
200 FIFTH AVENUE, NEW YORK
ROBERTO ORTIZ—HAVANA CUBA

When you think of bottles think of

Swindell

Penn-Drake Petrolatum

MAKES YOUR FINE PREPARATIONS BETTER!

You can pay no greater tribute to your preparation than to use Penn-Drake PETROLATUM . . . made from the finest Pennsylvania Oils.

Penn-Drake PETROLATUM is pure; resists oxidation, light and heat; is odorless and tasteless — and stays that way!

Always uniform in all its grades and colors . . . you get a new standard of product uniformity, dependability and permanency.

Safeguard your quality—stabilize your production—by standardizing on Penn-Drake PETROLATUM.

For full information write Dept. 103.

penn drake petroleum products

PENNSYLVANIA REFINING CO.

General Offices · BUTLER, PA.

Makers White Oils (U. S. P. and Technical); Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Deodorized and other Naphthas; Petroleum Sulphonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils, and other petroleum products.

schimmel

fixoresins

to stabilize, fix, round out and improve the character of the perfume of your product.

In a wide range of odors.

SCHIMMEL & CO., INC.

601 West 26th Street

New York City

CHICAGO • CINCINNATI • CLEVELAND • LOS ANGELES • ST. LOUIS • SAN FRANCISCO

Service . . .

To the Trade Exclusively

For Quality

LIPSTICKS
CREAM ROUGES
EYEBROW PENCILS
CREAMS

COMPACTS { ROUGE / POWDER / MAKEUP
EYE SHADOWS
WATERPROOF MASCARAS
FACE POWDERS

In compliance with the Pure Food, Drug and Cosmetic Act and WPB Limitation Orders.
Products Liability carried.

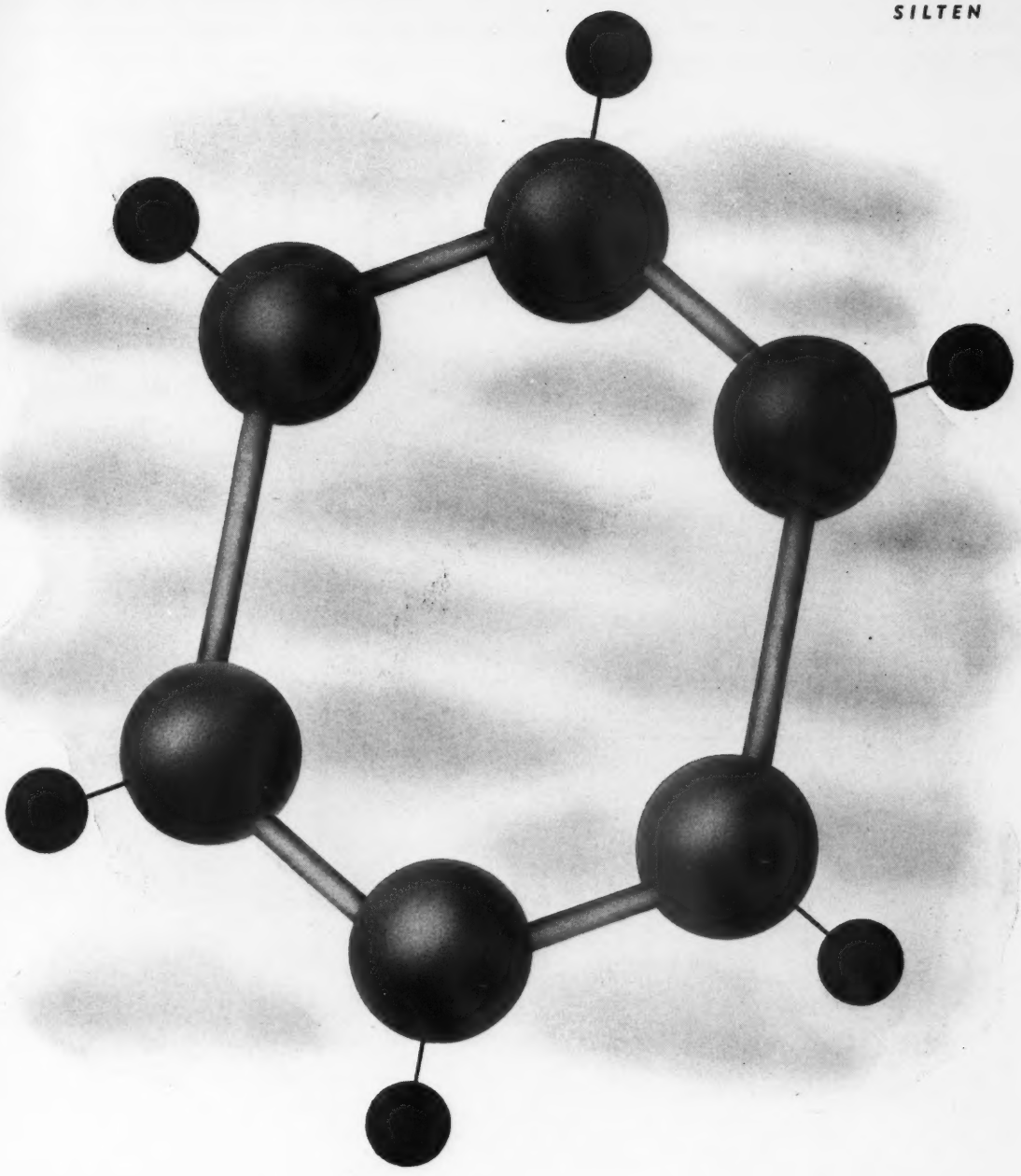
We also manufacture powder puffs, vanity puffs, loose sifter powder devices, etc.

OXZYN COMPANY

NEW JERSEY OFFICE
ONE PLEASANT AVENUE
CLIFTON

MANUFACTURING
Cosmetics of Quality
SINCE 1877

CANADIAN OFFICE
54 OSLER AVENUE
WEST TORONTO, ONTARIO

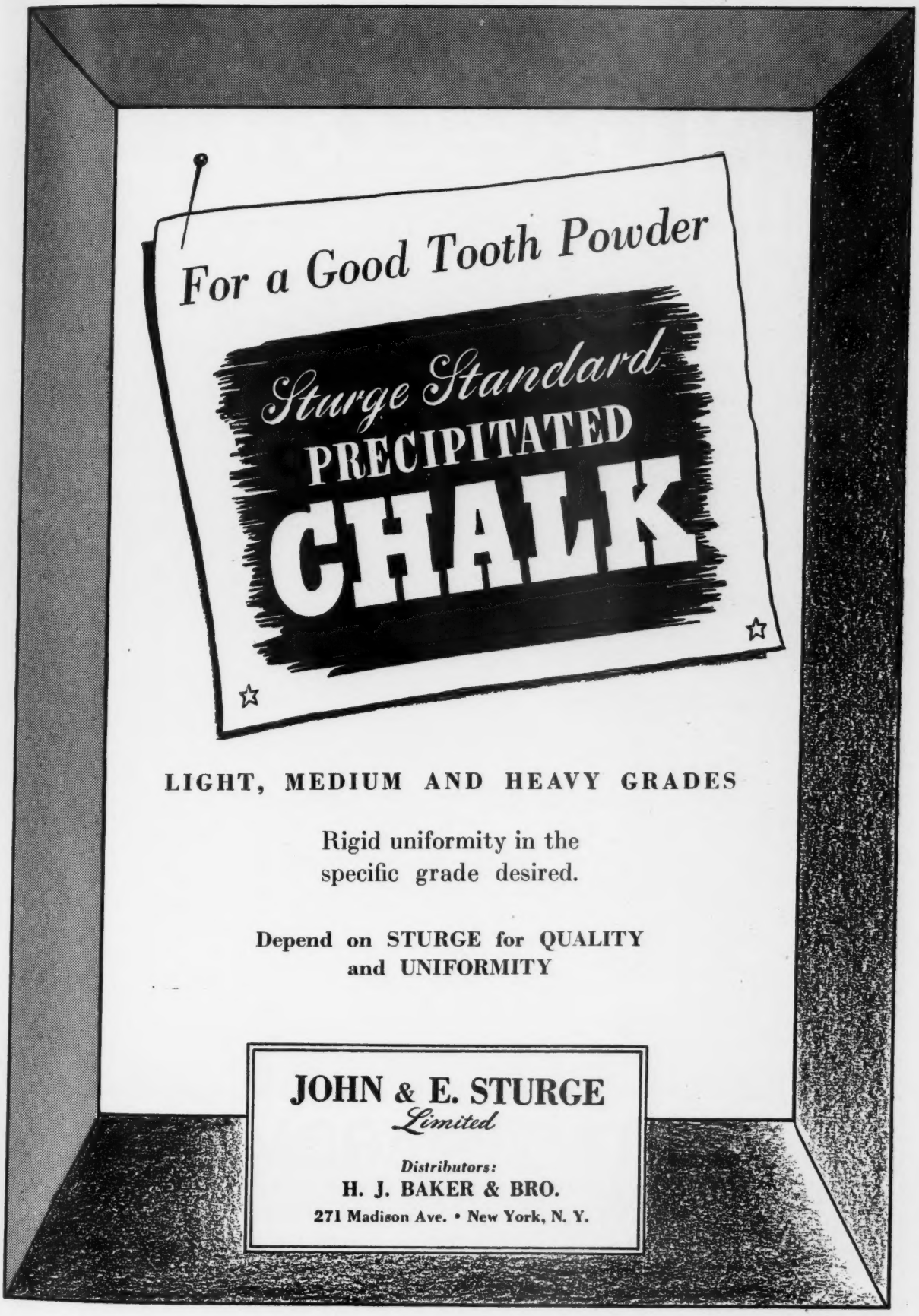


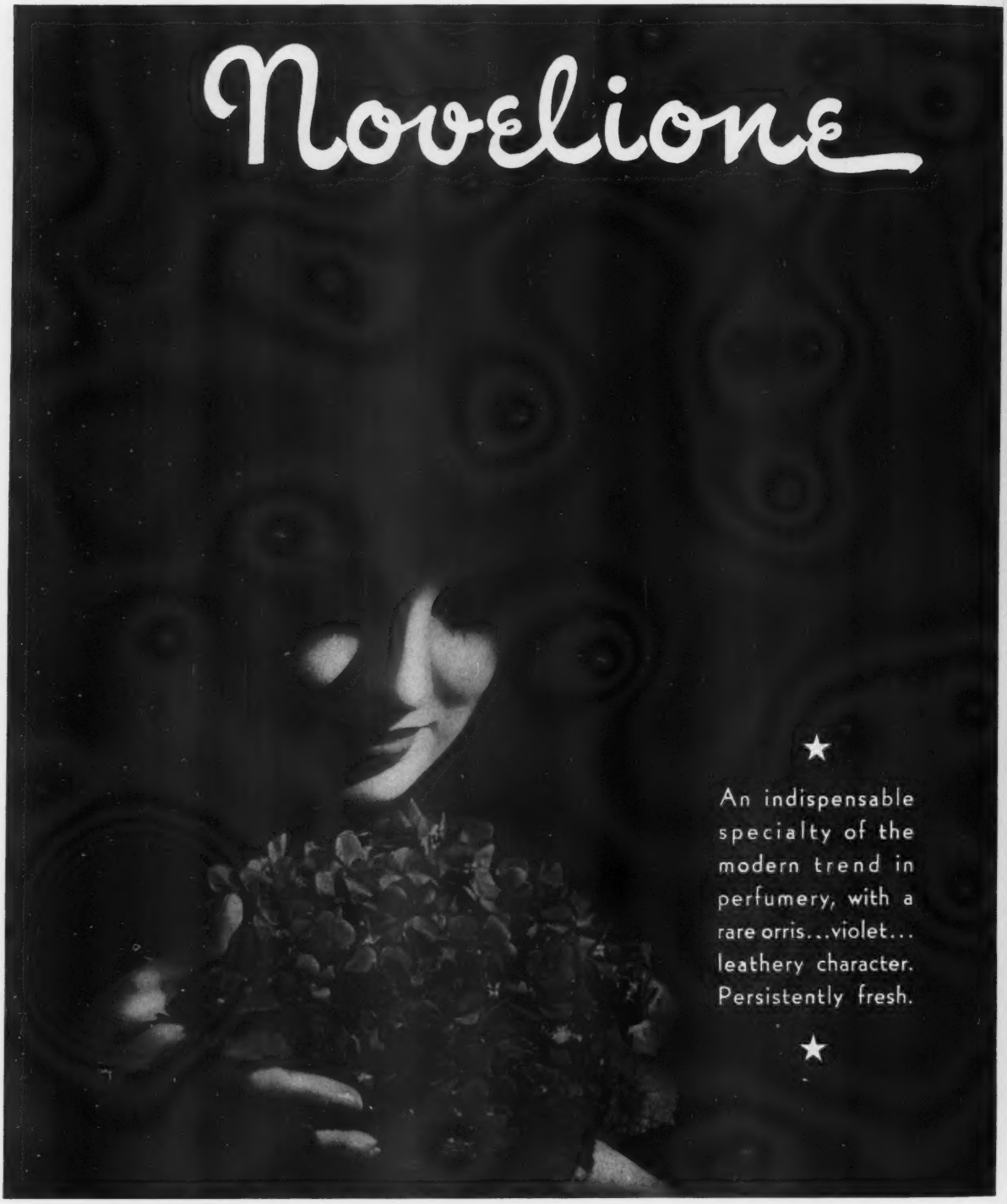
Iso Bergamone

the *scientifically* developed synthetic Bergamot oil

POLAK & SCHWARZ INC. 667 WASHINGTON ST., NEW YORK, N. Y.

BAYONNE COMPANY
INCORPORATED
404 FOURTH AVENUE, NEW YORK, N. Y.
TELEPHONE: MURRAY HILL 5-0250-1-2
BAYCO
BC
INC.
Aromatic Chemicals-Essential Oils


For a Good Tooth Powder
Sturge Standard
PRECIPITATED
CHALK
LIGHT, MEDIUM AND HEAVY GRADES
Rigid uniformity in the specific grade desired.
Depend on STURGE for QUALITY and UNIFORMITY
JOHN & E. STURGE
Limited
Distributors:
H. J. BAKER & BRO.
271 Madison Ave. • New York, N. Y.


Novelione
An indispensable specialty of the modern trend in perfumery, with a rare orris...violet... leathery character. Persistently fresh.

NAUGATUCK AROMATICS

DIVISION OF UNITED STATES RUBBER COMPANY

254 FOURTH AVENUE • NEW YORK, N. Y.

215 W. OHIO STREET, CHICAGO, ILL. • H. M. ROYAL, Inc., 4814 LOMA VISTA, LOS ANGELES, CALIF.

NAUGATUCK CHEMICALS LTD., ELMIRA, ONTARIO, CANADA

Sole Representatives for: BRUNO COURT, S. A., GRASSE, FRANCE C. A. P. P., CASABLANCA, MOROCCO

"This is
SKULL INSURANCE

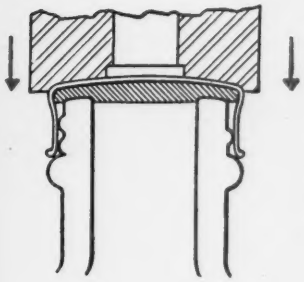
THIS IS
Packaging Insurance

Packaging Insurance saves headaches, too. In the form of the Alseco Rolled-On Method of sealing, it permits you to stop worrying about leakers and breathers.

With an R-O Seal, each package that rolls off your line has an individually tailor-made closure to keep its contents "right" until the consumer is ready to use them. (See diagrams.)

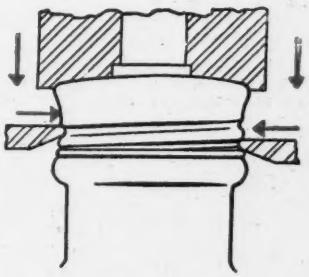
Packaging Insurance saves mechanical worries, also. Alseco machines are smooth, fast and trouble-free — they just go on sealing, sealing, sealing with a minimum of down time for repairs.

HERE'S WHY YOU GET "PACKAGING INSURANCE" BY THE ROLLED-ON METHOD OF SEALING



1. Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

2. While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



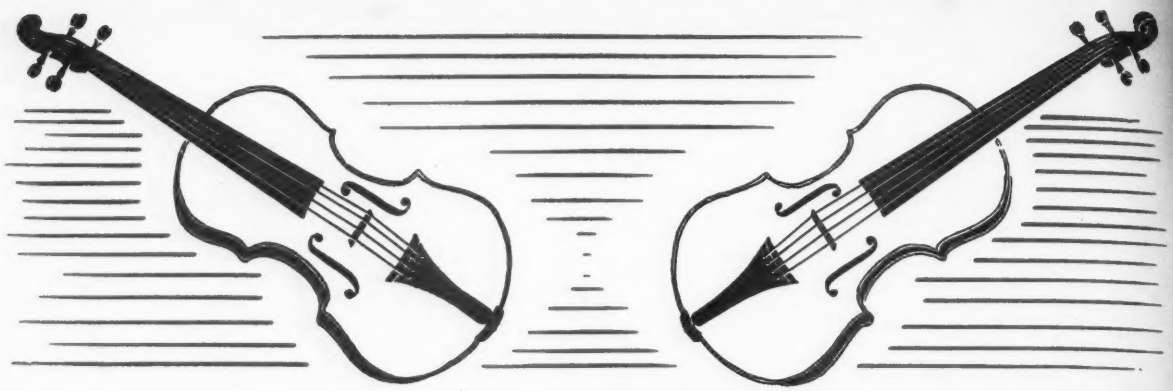
Trade Mark Reg. ALSECO SEALS U S Pat Off.

TAILOR-MADE

SOMETHING TO THINK ABOUT
Aluminum is now cheaper than ever. After the war it will be available to everyone in great abundance. It might be profitable for you and Alseco to get together now to do some Imagineering about your postwar packages and about new ways of sealing them with aluminum.

ALSECO SEALS

ALUMINUM SEAL COMPANY, 1323 THIRD AVENUE, NEW KENSINGTON, PA. . . At your service: 29 years of experience building quality seals and sealing machines.



What's the Difference?

★

Gums and Vanillas
For 85 years
THURSTON & BRAIDICH
NEW YORK
Specialties
Gum Arabic—Gum Karaya—
Gum Tragacanth—Vanilla
Beans—Tonka Beans.

★

Talc
Oldest and largest in U.S.A.
SIERRA TALC CO.
LOS ANGELES, CALIF.
Sierra Talcs approximate the ideal—chemically and physically—and excel in uniformity of milling and color.

★

LACO Castile Soap
Made with 100% Pure Imported Olive Oil
LACO PRODUCTS, INC.
BOSTON • NEW YORK
Manufacturers and Importers
Castile Soap U.S.P. "Laco"
Powdered—"Purls"—Bars

★

They look so much alike that only a real expert could make a satisfactory choice.

But you don't have to be an expert to realize the advantages of choosing A. C. DRURY & CO., INC., for your raw materials. YOU'LL KNOW that you are selecting a house with years of importing and distributing experience, a house which can guarantee efficient and dependable service at all times.

Send us your inquiries. We shall be glad to deal with them.

★

Bees-Wax
Since 1852
THEODOR LEONHARD WAX CO.
Established 1852
HALEDON, PATERSON, N. J.
Bleachers, & Refiners of Bees-Wax.
White Bleached Bees-Wax
T. L. Brand. Extra Quality—
U.S.P. and 100% pure.

★

Stearic Acid
Superiority founded on performance
THE HARKNESS & COWING CO.
CINCINNATI, OHIO
Manufacturers of Stearic Acid
Saponification Process.

★

Medicinal White Oils
Qualities Unsurpassed
THE ATLANTIC REFINING CO.
PHILADELPHIA, PA.
260 South Broad St.
Petroleum Products
White Mineral Oils U.S.P. for pharmaceutical and cosmetic uses.
All gravities, all viscosities.

★

Precipitated Chalk
Sturge's "Sturgeon Brand" leads the world
H. J. BAKER AND BRO.
NEW YORK
Sturge's English precipitated chalk
U.S.P. Extra light—Dense.

A. C. DRURY & CO., INC.

219 EAST NORTH WATER STREET • CHICAGO, ILLINOIS

FULL SPEED *Ahead*

Victory for our Country depends upon all of us who are supplying our Government with its vital needs.

Just now we are busy plowing ahead to win the war. Let us not lose sight of the fact, however, that a healthy industry behind the war effort will insure the final Victory.

Maximum production by a healthy industry will win the war and insure the successful solution of the many problems which will come after the war.

Products which are available to the perfumer at reasonable prices:

OIL OF CEDAR LEAF AMERICAN
Exceptionally Fine Quality
OIL OF BALSAM FIR
PHENYL ETHYL ALCOHOL
IONONE A. B.—IONONE METHYL
HYDRATROPIC ALDEHYDE
PARA METHYL HYDRATROPIC ALDEHYDE
CYCLAMAL
INDOL

Requests for samples on your firm's letterhead and further information will be promptly furnished.

Aromatics Division

GENERAL DRUG COMPANY

644 Pacific St., Brooklyn, N. Y.

9 S. CLINTON STREET, CHICAGO

1019 ELLIOTT ST., W., WINDSOR, ONT.

What about Post-War Markets?

The Going will be Tough for those who fail to Plan Ahead

POST-WAR selling will be no cinch!

Spending may be freer without war time restrictions. But new materials, new products—and perhaps new price levels—will bring keener competition.

Thoughtful business men are planning *now* to meet these post-war conditions. They know they will need more aggressive selling. More vigorous merchandising. And *better packaging*.

Ritchie, too, has been planning ahead. In the more than two years we have been busy on war work, we have also been busy developing new machines, new methods, new ways to use them to give you *better* packages at *lower* cost.

These developments are available to you *now* through Ritchie packaging engineers and designers. Their services are offered without cost, without obligation and without thought of gaining immediate business.

Start planning for tomorrow's needs—today —with Ritchie.

W. C. Ritchie AND COMPANY

SET-UP PAPER BOXES
FIBRE CANS
TRANSPARENT PACKAGES

8823 BALTIMORE AVENUE • CHICAGO

NEW YORK DETROIT LOS ANGELES ST. LOUIS MINNEAPOLIS DENVER MIAMI

ANTOINE CHIRIS

Antoine Chiris was established in France in 1768 and all through these years pioneered in the development of its long-known worldwide organizations. The American branch was established in New York in 1899.

CHIRIS

is prominent in

PERFUME BASES

AROMATIC MATERIALS

for

PERFUMES • COSMETICS • SOAPS

Long and persistent experience in research enables Antoine Chiris to solve your problems of replacement, substitution or adjustment.

ANTOINE CHIRIS COMPANY, INC.

115-117 EAST 23rd STREET, NEW YORK, N. Y.

SOLE DISTRIBUTORS IN NORTH AMERICA FOR

PIERRE DHUMEZ ET CIE — ETS ANTOINE CHIRIS, GRASSE, FRANCE — PILAR FRERES

ANTOINE CHIRIS, LTD., LONDON, ENGLAND

ALBERT VERLEY & COMPANY RECOMMENDS

Lilac Aldehyde

FOR THE ALLURING SALES APPEAL OF THE

TRUE LILAC NOTE

Lilac for its own sake . . . or Lilac for a floral effect in a host of flowery bouquets and compositions — becomes a thing of beauty with this fine aromatic substance, matching the fragrance of the natural product with uncanny fidelity . . . The moderate cost of Lilac Aldehyde permits very wide usage; it is suitable for all kinds of perfumery work, including powders, creams, soaps, toilet waters, etc. — and its excellent fixative value and lasting quality are assets to any cosmetic product . . . Lilac Aldehyde is a joy to work with. It not only enables you to create a very fine floral effect, but also acts as an extremely fine blender, smoothing out the composition. Know for yourself the satisfaction of achieving new effects that add to your reputation, with Lilac Aldehyde.

Write for working sample and prices.

Albert Verley & Co

AROMATICS

232 EAST OHIO STREET, CHICAGO, ILL.
114 EAST 25TH STREET, NEW YORK
MEFFORD CHEMICAL CO., LOS ANGELES

Radiance Lipsticks

Wherever you go — it's on their lips. Helfrich Radiance Lipstick — tried and approved, under many brand names.

It's a good lipstick — non-toxic, non-greasy, sweat-proof, with perfect color dispersion and a superb brilliance. A fine companion for Helfrich's Private Label Cosmetics.

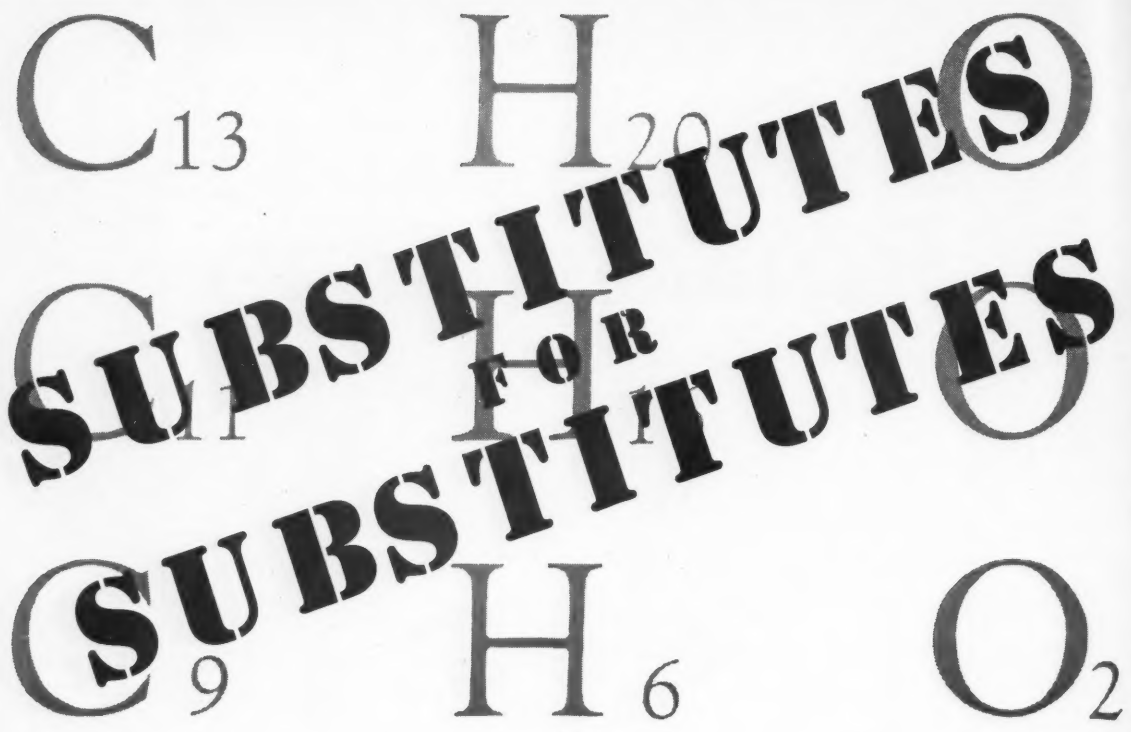
HELFRICH LABORATORIES INC. • 564-570 West Monroe Street, Chicago
HELFRICH LABORATORIES of N. Y. Inc., 151-163 West 26th St., New York
HELFRICH LABORATORIES OF CANADA, Ltd., 690 King St. West, Toronto, Ont.
CABLE ADDRESS: HELFLABS, NEW YORK . . . CHICAGO . . . TORONTO

All inquiries and correspondence west of the Rocky Mountains should be addressed to our Chicago plant.

ANNOUNCEMENT

Our Chicago plant will negotiate for a government sub contract of powder mixing, filling and assembly. Ample facilities for producing about 10,000 packages per 8 hour shift. Stokes-Smith Fillers G 1170. 7000 sq. ft. storage space for containers.

HELFRICH Laboratories



There was a time when life for the research chemist was comparatively simple. He'd create a new formula for grateful clients, or aid in bringing costs down by suggesting a change in basic ingredients. However, that was all — in what seems — the long ago.

Today, he is a much harassed man.

Not only are vital ingredients denied him — unavailable or price prohibitive — but the substitutes that he so painstakingly created to take their place, have themselves been placed on shortage or priority listings. Today, he must concentrate the full measure of his skill in the creation of *Substitutes for Substitutes.*

Many manufacturers, fighting to keep production moving, have turned to us with their problems. We have, in most cases, been able to supply the necessary help. Our research chemists have, for more than a quarter of a century, made the Florasynth name a byword in the industry, for the creation of effective and successful synthetics. So much so, that our reproductions of natural floral absolutes and true essences have long been accepted as *primary essentials* in the manufacture of countless successful perfumes, lotions and other toiletries.

So many of our *Substitutes for Substitutes* have found their place in standard production that we feel confident that *your* problems can be just as effectively solved by the Florasynth Laboratories.

★★★ *FOR VICTORY BUY U. S. WAR BONDS AND STAMPS* ★★★

Florasynth LABORATORIES, INC.

1533 OLMSTEAD AVE., NEW YORK

CHICAGO • DALLAS • DENVER • LOS ANGELES • NEW ORLEANS • SAN FRANCISCO • SEATTLE

FLORASYNTH LABS. (CANADA) LTD.—MONTREAL • TORONTO • VANCOUVER • WINNIPEG FLORASYNTH LABORATORIES DE MEXICO S. A.—MEXICO CITY

NOT DEPENDENT ON GLYCERINE

★ ★ ★

TEGIN-P

EMULSIFIER FOR

CREAM COLOGNES - COSMETIC STOCKINGS
HAND CREAMS AND LOTIONS

TEGACID-P

EMULSIFIER FOR

ANTI-PERSPIRANTS AND DEODORANTS
CREAMS AND OINTMENTS

EMULSIFIERS	PRESERVATIVES	LANOLIN PRODUCTS
TEGIN For Greaseless Hand Creams and Lotions	**TEGOSEPT M** For Lotions	**PROTEGIN X** For Ointments and Night Creams
TEGACID **Regular and Special** For Anti-Perspirants, Deodorants, Creams, and Lotions	**TEGOSEPT P** For Creams **TEGOSEPT E** **BUTYL TEGOSEPT** **BENZYLTEGOSEPT**	**ISOLAN** For Soft Creams and Lotions

GOLDSCHMIDT CHEMICAL CORPORATION

153 WAVERLY PLACE NEW YORK, N. Y.

SALES REPRESENTATIVES

ATLANTA BOSTON LOS ANGELES PITTSBURGH ST. LOUIS TORONTO

AVERTING SHORTAGES...

Emetine

Hydrochloride U. S. P.

● EMETINE fits into the familiar pattern of minor alkaloids in that its manufacture in the United States was largely abandoned to foreign producers. Highly toxic, it requires precaution in working conditions and is difficult to produce successfully. It was more convenient to import EMETINE than to make it for the normal consumption that existed in the United States.

In wartime, however, EMETINE assumes more importance than its peacetime usefulness. As recently as last June, a leading pharmacologist of the United States Public Health Service, in a public address, stated, referring to the treatment of amebiasis: ". . . in the acute stages, EMETINE is still the drug of choice."

S. B. Penick & Company has succeeded in producing sufficient EMETINE for current needs, and a consistent flow of supplies is being maintained as a reserve against future requirements.

So long as further difficulties are not encountered, EMETINE can be considered as "safe for the duration."

Number 6 of a series of advertisements on how S. B. PENICK & COMPANY is helping to avert shortages in important plant alkaloids which hitherto were imported from Europe.

S. B. PENICK & COMPANY

ALKALOID EXTRACTING MANUFACTURERS

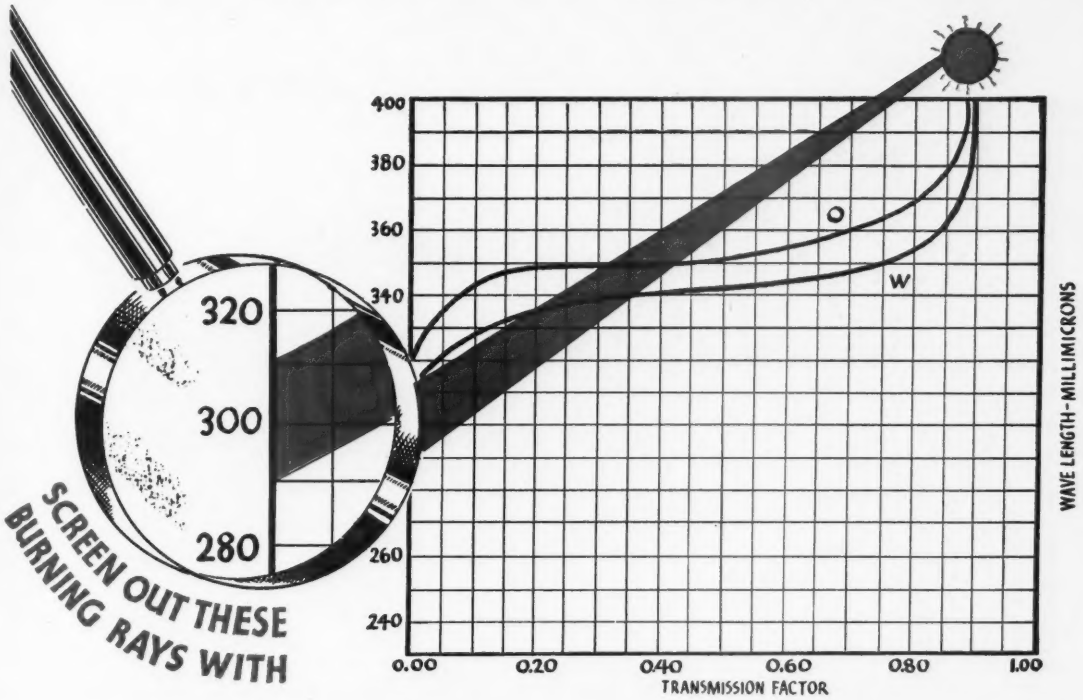
50 Church Street
New York, N. Y.

735 W. Division Street
Chicago, Illinois

"Buy War Bonds and Stamps—for Victory"

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

MAKE BETTER SUN-TAN PRODUCTS FOR LESS!



SUNAROMES

. . . FELTON'S EFFECTIVE SUN SCREEN PERFUMES

Just consider the many advantages you can enjoy from a product that not only perfumes your sun-tan preparations most attractively, but which in itself makes them very effective screens against the burning rays of the sun. Then you'll understand why Felton's Sunaromes have been widely used in the manufacturing of so many successful sun-tan products.

Sunaromes are supplied in a number of delightful fragrances . . . and you'll be amazed to see how easy it is to make fine sun-tan preparations with them!

All you do is mix Sunaromes with the base you prefer . . . water gum, water alcohol, or even water alone. You can also use a liquid cream base, mineral oil, fatty oil and others. It's the Sunaromes that make them effective sun screens . . . and scent them so attractively! The protection is positive . . . and there is no problem of skin irritation.

FELTON Quality

FELTON CHEMICAL CO., Inc.
599 Johnson Ave., Brooklyn, N. Y.
Branches in Principal Cities

WRITE NOW FOR SAMPLES

And a leaflet containing complete data, prices and interesting formulas.

Manufacturers of Aromatic Chemicals, Essential Oils, Perfumes and Flavors

FINE CHEMICALS

Mallinckrodt

SINCE 1867

More than 50 Iodine Products

Each Developed for Utmost Efficiency and Convenience in its Particular Field

STARTING from a specific raw material, Mallinckrodt laboratory technicians have developed more than fifty conveniently efficient iodine compounds. They have achieved such highly specialized chemicals as Iodeikon for X-ray, Ioflow for livestock feeding, Collodion Iodizer for photo-engraving . . . and have brought to manufacturing perfection such standard items as Potassium Iodide, Ammonium Iodide, Sodium Iodide. All in all, Mallinckrodt Iodine products typify the vast scope of M.C.W. research and show how usefully it fits into the chemical picture.

•

MALLINCKRODT CHEMICAL WORKS

Mallinckrodt Street, St. Louis, Mo. • 74 Gold Street, New York, N. Y.

CHICAGO • PHILADELPHIA • MONTREAL • LOS ANGELES

PROMPT ATTENTION GIVEN INQUIRIES ON IODINE PRODUCT PROBLEMS

• SPECIAL • STANDARD •

• UNCOMMON •

MALLINCKRODT IODINE ITEMS

1. Iodine Crude
2. Iodine U.S.P. Resublimed Crystals
3. Iodine U.S.P. Resublimed Granulated
4. Iodine A.R. Crystals
5. Iodine Tincture U.S.P.
6. Iodine Tincture U.S.P. Mild
7. Acid Hydriodic U.S.P. Diluted
8. Acid Hydriodic Conc. Sp. Gr. 1.5
9. Acid Hydriodic Sp. Gr. 1.5 A.R.
10. Acid Iodic Powdered
11. Acid Iodic A.R.
12. Acid Iodic Anhydride A.R.
13. Ammonium Iodide N.F.
14. Ammonium Iodide A.R.
15. Arsenous Iodide N.F.
16. Barium Iodide
17. Cadmium Iodide
18. Cadmium Iodide A.R.
19. Calcium Iodide
20. Collodion Photo Iodizer White Label
21. Collodion Photo Iodizer Orange Label
22. Ethyl Iodide A.R.
23. IODEIKON*
24. Iodide Mixtures N.F.
25. Iodoform N.F. Powdered Heavy
26. Iodoform N.F. Powdered Light
27. IOFLOW*
28. Iodophthalein Sodium U.S.P.
29. IOMAG*
30. Iron Iodide
31. ISO-IODEIKON*
32. Lead Iodide N.F. V
33. Lithium Iodide
34. Manganese Iodide
35. Mercury Iodide Yellow N.F.
36. Mercury Iodide Red N.F.
37. Mercury Iodide Mercuric A.R.
38. Methyl Iodide A.R.
39. Potassium Iodate
40. Potassium Iodate A.R.
41. Potassium Iodide U.S.P. Crystals
42. Potassium Iodide U.S.P. Granulated
43. Potassium Iodide U.S.P. Powdered
44. Potassium Iodide A.R. Crystals
45. Potassium Iodide A.R. Granulated
46. Potassium Iodide Neutral A.R.
47. Potassium Mercuric Iodide N.N.R.
48. Silver Iodide
49. Sodium Iodate
50. Sodium Iodate A.R.
51. Sodium Iodide U.S.P.
52. Sodium Iodide A.R.
53. Strontium Iodide U.S.P. IX
54. Syrup Iron Iodide N.F.
55. Thymol Iodide U.S.P.
56. Zinc Iodide N.F.

*Trade Marks Reg. U. S. Pat. Off

76 YEARS OF SERVICE TO CHEMICAL USERS

KEEPING POSTED

More Doctors for Army

FOR 1943, the Army recruiting program calls for the commissioning of 6,900 physicians and 3,000 hospital interns and residents, as well as 4,800 dentists and 900 veterinarians. These doctors will come from the following twenty states and the District of Columbia: California, Colorado, Connecticut, Illinois, Iowa, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Wisconsin. States that have contributed more physicians to the Armed Forces than the sum of their 1942 and 1943 quotas are: Alabama, Arizona, Delaware, Georgia, Idaho, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, South Carolina, Tennessee, Texas, West Virginia, and Wyoming.

F.T.C. After Laxatives

LAXATIVES are being proceeded against quite extensively by the Federal Trade Commission, particularly in cases where warning statements are not included in the advertising. The Commission has also questioned the value of aloes and podophyllin as stimulants of the bile-producing cells of the liver. Dr. Hazelton of the George Washington University has carried on research with these drugs and finds that they stimulate the liver only in dosages much larger than used in the ordinary laxative preparation. The quantities necessary to produce the effect, he says, also produce a drastic carthartic action with severe griping.

The Commission also questions the reference to sour stomach by laxative manufacturers. It should seem obvious that there is sufficient evidence and personal experience to prove that constipation does cause sour stomach.

A Vitamin Removed!

WITH everybody trying to put vitamins into their products, in one instance it has been necessary to take one out of a product. It seems that the milk vitamins in casein, used for plastic "pearl" buttons, made colored buttons instead of the more expensive clear white ones desired. Science came to the rescue and removed the offending riboflavin by treating the casein with either warm alcohol or acetone. Now it is predicted that this improved clear white plastic may prevent the dairy industry from slumping too suddenly when the war is over.

Quinine Pool Report

THE National Quinine Pool reports that from February 1 to March 15, 5,797 packages of cinchona derivatives had been opened to yield a total of 37,821 ounces, or an average of 6.52 ounces per package. Eighteen and one-quarter barrels were ready for shipment to manufacturers for reprocessing for the quinine stockpile of the Government. These contain the following: 4 barrels of powdered quinine sulfate, 4 barrels of quinine sulfate capsules, 1 barrel of quinine sulfate pills, ¼ barrel of quinine sulfate tablets, 2 barrels of quinine hydrochloride, 2 barrels of quinine salicylate, 1 barrel of quinine bisulfate, 1 barrel of quinine hydrobromide, 1 barrel of quinine alkaloid, 1 barrel of quinidine sulfate, 1 barrel of cinchonidine sulfate.

The above material was obtained from packages that had been previously opened. In addition, a substantial amount of quinine in original unopened packages and thousands of capsules, tablets, and pills of quinine in original packages were on hand to be turned over directly for immediate use.

Gallup Surveys Colds

NONE other than Dr. George Gallup and his American Institute of Public Opinion has surveyed the common cold situation in this country. Facts revealed by the survey are: Peak month is February when 18 per cent of the people are affected; low point is July with 5 per cent affected; from second week in October to second week in November, people with colds climbs 40 per cent,—from 10 per cent to 14 per cent; from late December to late February, people with colds rises 29 per cent,—from 14 per cent to 18 per cent; from late February to late April, number affected drops 33 per cent,—from 18 per cent to 12 per cent.

Also proven was that there is a relationship between family income and colds, the percentage suffering from colds in the lower income levels being 60 per cent greater than those in higher brackets. Also people who spend the least for food have the most colds. Greatest incidence of colds is in Wisconsin, Minnesota, North Dakota, Iowa, Nebraska, Kansas, and Missouri.

The age group under ten years had the most colds, and the 20 to 29 year group had the fewest. People on farms or in towns under 10,000 had slightly more colds than the city dwellers. Family size does affect the incidence of colds.

Glycerin Control Order

GLYCERIN is now controlled by FDO 34. Exemption is given to those using not more than 50 pounds per month. Exemption under certain restrictions is given to allow more than 50 pounds, but not more than 1,150 pounds per month to be received and used by certain users. These restrictions include: No restrictions where the use is for a hospital clinic, research and control laboratories, research or control laboratory; no restriction where use is for prescriptions of doctors, dentists, veterinarians, for manufacture of sterile solutions, ampoules, basic medicinal chemicals not in compounded form, dental impression compounds, biological preparations, and embalming fluids; re-

stricted to 100 per cent of the base period when use is for manufacture of other medicinal or veterinary preparations. The base period is the calendar year 1940.

Castor Oil Restrictions

CASTOR oil use has been further restricted by FDO 32, issued by the Director of Food Distribution of the Department of Agriculture. Persons using 40 pounds or less in any month are exempt. Castor oil for bottling or capsulating for medicinal use is exempt, but castor oil as an ingredient of a medicinal preparation must be obtained by specific authorization under the terms of the order.

Other Oils Restricted

THE Food Distribution Administration has also placed under the same allocation as obtains in the case of castor oil, oiticica oil, rapeseed oil, and mustard seed oil. Forty pounds of oiticica oil per month are exempt, as is forty pounds in the aggregate of the two oils of mustard seed and rapeseed. The oiticica oil order is FDO 31, and the rapeseed and mustard seed oils order is FDO 35. Under FDO 38, sperm oil is restricted, the exemption being 100 pounds per month. Palm oil is also restricted under FDO 38 to the manufacture of tinplate, ternplate, and so forth, or to manufacture in which glycerin is produced in accordance with FDO 33.

Quinine to Army and Navy

PART of the large stock of quinine that was built up by the Treasury Department before Pearl Harbor has been released by the President to the Army and the Navy. Under date of March 20, the President ordered 3,634,782 ounces of quinine sulfate released to the Army, and 1,283,600 ounces released to the Navy.

Too Much Talc

THE talc scare that the WPB threw into this industry some months ago seems to have been just another false alarm. The situation to-day appears to be that partly as a result of the expanding use of glass and plastic substitutes, and partly as the result of the increased output of steatite talc, the talc situation has eased to the point that this industry is now running at but 75 per cent of capacity, and there is even some question of closing down the talc mines temporarily. The industry is said to have only a two-months backlog of orders, compared with a nine-months backlog earlier in the Winter.

Substitution Permitted

FOOD and Drug Administration officials state that there is no objection to substitution in drug products for scarce ingredients so long as the finished product has the proper therapeutic potency and is properly labeled. This does not go for U. S. P. and N. F. products, substitution in them being allowed only if the respective revision committees allow the substitutions. Glycerin being one of the real scarce ingredients, substitution of propylene glycol is permitted. The N. F. Committee is now preparing a second supplement modifying the formulas of many products to save glycerin.

Sulfathiazole Bandage Offered

BAUER & BLACK have been advertising to the public through the newspapers a bandage which contains sulfathiazole. This is the first instance in which a sulfa drug in any form has been offered directly to the public for use in self-medication. The Food and Drug Administration specifically restricted the sale of sulfa drugs to physicians' prescriptions. It is a question whether or not the F. D. A. will seek to prohibit this use, although it is understood that they are opposed at the present time to use of sulfa products for external use by the general public.

Medical journals report cases of sulfahemoglobinanemia, agranulocytosis, and other disturbances, following the use of sulfa drugs. Some think this is the result of an allergy, but the F. D. A. will doubtless ask for sufficient evidence to prove that when a sulfa drug preparation is used over large areas of the body for a long period of time, there is not a sufficient amount absorbed to create some of these disturbances.

More Buying Power

THE average factory worker can purchase 41 per cent more in goods and services today than he could in August 1939, despite the rise in living costs, according to study on the effect of war income, wages, and living costs issued by the National Association of manufacturers and covering the period from August 1939 through November 1942.

Largest Exporter of Fish Vitamins

THIS country has changed from the largest importer of vitamin fish liver oils to the largest exporter of these products as a result of the war. In 1939 we imported these products, principally from Norway, to the value of $3,750,000. While data cannot be revealed as to our cash expert trade in these products, the Food Distribution Administration recently publicized the fact that movement of these products for Lend-Lease and related requirements totaled almost $4,000,000 last year. A sharp increase for this year is indicated by the fact that purchases for January alone totaled $1,300,000.

Grade Labeling Scare

THE food packers are fighting with everything they've got to block grade labeling of the 1943 pack of canned goods. Being advocated as a war measure, the food packers are afraid that the practice might be continued after the war. Remember back to the days of the original Tugwell Bill to control foods, drugs, and cosmetics? The original bill permitted grade labeling. A fight against it was staged at the subcommittee hearing presided over by Senator Copeland. When the bill came before the full Senate Committee on Commerce, grade labeling had been removed. Therefore, the food packers and all their cohorts appeared and asked for speedy passage of the bill, fully contented to throw the drug and cosmetic manufacturers to the wolves so long as this one thing was kept out of the bill. Every representative of consumer organizations asked that it be put back. The drug and cosmetic manufacturers staged their own battle from there on and the bill was finally enacted in a form that was satisfactory to the drug

and cosmetic manufacturer and the consumers as well. But the food people still have to face the possibility of adoption of the provision that is so distasteful to them that they tried to sell drug and cosmetic manufacturers "down the river" to prevent its inclusion in the Food, Drug, and Cosmetic Act.

Just a Few Billions

WE LIKE the piece that came into us recently from OWI reading as follows:

"In Office of War Information Release 1521, the last paragraph on page three should read: 'For the fiscal year that will begin July 1, 1943, war spending will rise to the annual rate of $100,000,000,000 (billion).' "

We don't know why they bother to send out a correction since nowadays no one bothers about a few billions one way or the other. We find ourselves longing for the good old days when Wilkie and his workers were warning us that if Roosevelt were reelected, the national debt would rise to $75,000,000,000. How little they knew, or how little they told us. Secretary Morgenthau estimates that the debt will reach $210,000,000,000 by June, 1944, and that the servicing load will be more than $4,000,000,000, which is just about the size of the Federal government's total receipts in 1936.

Riboflavin Under Allocation

RIBOFLAVIN, (vitamin B_2 or G) has been placed under complete allocation by WPB Order M-299. This is caused by available sources of riboflavin being curtailed as the result of large quantities of dairy products, such as powdered milk and whey powder, being diverted to the Armed Forces and Lend-Lease. Lots of five grams or less are exempt from the order.

Fine Chemical Price Ceilings

SPECIFIC price ceilings on twelve fine chemicals have been established by OPA. The items covered are saccharin, caffeine, anhydrous caffeine, theobromine, cirated caffeine, vanillin, ethyl vanillin, coumarin, salicylic acid, acetylsalicylic acid, citric acid, and ascorbic acid. The order is Part 1396—Fine Chemicals and Drugs (MPR353), issued March 29.

Birth Statistics

BIRTHS in hospitals stood at 708,889 in 1931, 1,404,940 in 1941, and 1,670,599 in 1942. In 1931, only 33.6 per cent of the total births were in hospitals, while in 1941 55.9 per cent were in hospitals. The total births for the three years would therefore be 2,109,765 for 1931, 2,531,000 for 1941, and 2,988,550 for 1942, assuming that the percentage of hospital births for 1942 was the same as in 1941. Considering that 1931 was almost the bottom of the depression, and that 1941 and 1942 were all-time high business years, the increase in births is not as great as one would be led to believe from all reports. The improved business conditions and the great expansion in facilities for proper medical care have resulted in the sharp increase in births occurring in hospitals. It is the crowding of hospitals that has given the impression that the increase of births is greater than it really is.

Five and Ten Cosmetics

MANUFACTURERS and distributors of five and ten cent retail cosmetics are allowed to continue to sell their products under their usual brand names and prices despite a wartime change in containers that in many instances has caused a fractional reduction in quantity. Principal reason for this order is that producers had contracted for the containers prior to issuance of an OPA interpretation of GMPR on September 11, 1942 requiring proportionate ceiling reductions for decreases in content. Another factor was the position of container costs in the production cost of cosmetics.

Plastic Health Aids

THE transparent plastic, Lucite, is being used for all manner of things pertaining to public health. Among these uses are: Contact lenses worn next to the eyeball to correct defective vision are being worn by 5,000 people. Since Lucite weighs 40 per cent as much as optical glass, is unbreakable and invisible, they are preferred by actors, actresses, and athletes. An artificial eye has been developed. Shields to protect doctors treating infectious diseases, windows in plaster casts, stethoscope parts, transfusion tubes, incubator covers, and drainage tubes, containers for pills and capsules, vaccination shields, nose guards, artificial fingers, splints, nylon catheters, windows for oxygen tents, respirators, therapeutic boots, and dentures are some more of the applications of this material.

Synthetic Anti-Malarial

QUINACRIN, the synthetic antimalarial produced by Winthrop Chemical Company under the trade name, Atabrine, has been placed under allocation. Thus far this product has been manufactured by two firms, Winthrop and Merck. Merck has been producing very large quantities for Winthrop. It is understood that at least three well-known other manufacturers are to be licensed to make this product which is in extremely heavy demand for us by our Armed Forces and Lease-Lend due to the extreme seriousness of the malaria problem in many areas where the forces of the United Nations are engaged.

Hospitalization Increases

HOSPITALIZATION has increased in this country to the extent that during 1942 one person entered a hospital every 2.5 seconds, and nearly one tenth (9.5 per cent) of the entire population, on the basis of the 1940 census, became hospital patients during 1942. Surgical operations were at the rate of one each 5.6 seconds, and the hospital birth rate exceeded three live babies every minute. The capacity of the 6,345 registered hospitals is 1,383,827 beds and 71,448 bassinets, an increase of 59,446 beds and 5,285 bassinets over the previous year. Blood banks are found in 610 hospitals, 1,741 have plasma banks, 546 have both, and 2,457 have these facilities available. Total patients admitted during 1942 was 12,545,610, an increase of 949,422, or 8.2 per cent over 1941. The total of patients operated upon was 5,607,879, or 44.7 per cent of those admitted for bed care. The percentage of occupancy in all hospitals has steadily declined for the past three years from 83.7 in 1940 to 81.4 in 1942. However, non-governmental hospitals increased in occupancy during

the same period from 68.5 per cent to 72.7 per cent, the increase occurring in all non-governmental hospitals including church related, nonprofit associations, and proprietary institutions. In governmental hospitals the rate of occupancy declined from 89.8 per cent in 1940 to 84.5 in 1942, and during the same period federal hospital occupancy declined from 79.5 to 66.6 per cent.

Meats for Drug Products

LIVER, pancreas, and other glandular meats needed in the manufacture of drug products, are not to be allocated by the Department of Agriculture for drug manufacturers. The Department feels that under the rationing program adequate supplies of liver and other meats should be available for drug manufacturers without any need for an allocation or priority system being established. This belief is based upon the theory that the housewife will buy steaks and pork chops instead of liver and these other articles because of the encouragement toward that end offered by the point system.

The Manpower Problem

THE manpower problem for all industries, including essential industries, is going to be a real tough problem during the months immediately ahead. About six million additional service men and workers will be required during this year. Three million of these are expected to be supplied by women entering industry. This does not mean that essential men in essential industries will be removed. It does mean, however, that non-essential men in essential industries will be removed,—this is occurring daily. Therefore, manufacturers must review their personnel and seek immediate replacements for men who are subject to military selection who are in positions such as office work, shipping rooms, and similar positions where they can be replaced by women or men over military age. Chemists and a few other men who are absolutely essential can be deferred, but the local board must understand all the facts. It is advisable, when taking on new employees, to be sure that they are either women or men over the military age.

Tobacco By-Products

THE Kentucky Agricultural Experiment Station now has in the laboratory stage some interesting products derived from low grade tobacco of which the State produces about ten million pounds a year. A soap produced from tobacco fat, and an oil extracted from tobacco seed are two of these products.

Asthma Control

FOLLOWING publication last month of control of asthma by injections of ethylene disulfonate by Dr. Norman M. Smith of Minneapolis, we received a letter from Edward H. Spicer, president of Spicer-Gerhart Company, Sunland, California. Mr. Spicer says:

"Dr. Norman Smith has been working with the preparation in Minnesota for some time, but the original work in this country was done here in Pasadena by Dr. Clifford L. Bartlett. His group of cases now exceeds 500 spread over some 2½ years. This group includes patients ranging from one to seventy years of age and with every type of allergic manifestation.

"As you will see from the literature enclosed, the objective of the use of ethylene disulfonate is not merely asthma but the allergic state itself. In view of the importance of the subject, I consider the work to be still in the preliminary stage, and although ethylene disulfonate has been released for general distribution, it is not being advertised or pushed in the usual way until the work has been confirmed by authoritative publications in the senior literature."

Mr. Spicer enclosed a booklet entitled "The Chemical Control of Allergy," by Geoffrey Evans, M.D., F.R.C.P., St. Bartholomew's Hospital, and John Bodman, M.D., with Professor Joseph Henri Maisin, Director, Cancer Institute, Louvain University, Belgium. The paper is reprinted from "The Medical Press and Circular" May 29 and June 5 1940. Mr. Spicer states in his letter that this reprint covers "the original work done with the substance in my laboratory in England."

Air Conditioning Allowed

WPB is allowing air conditioning apparatus to be obtained for the manufacture of pharmaceuticals, drugs, and biological products necessary for life or health, as well as for research, analytical, and testing laboratories, and manufacturers of chemicals, including acids, gases, pigments, and plastics.

Drug Industry in the War

"FORTUNATELY for our country, the growth of our pharmaceutical industries during the past twenty years has been one of the most phenomenal developments of all time," said Dr. Morris Fishbein, at the recent Conference on Planning for War and Post War Medical Services. He continued:

"These industries have supplied amounts of blood plasma through a cooperative effort with the Red Cross, the Army, the Navy, and the people of this country so great that they beggar the imagination. During 1943 more than 2,000,000 people of this nation will contribute their blood for this purpose. They have supplied quinine and atabrine and other antimalarials in amounts sufficient to guarantee to the people of the countries in which the battles are being fought some control over this devastating disease. They have produced the essential vitamins of which we thus far have knowledge, in amounts sufficient to overcome at least the fundamental deficiencies that would have resulted otherwise in world wide outbreaks of scurvy and rickets and many other diseases. They have met the demands for the sulfonamides, the miracle drugs of modern medicine, in terms of tons and tons and tons. As a result pneumonia, which might have incapacitated many hundreds of thousands of men, has a death rate of less than one per cent in our troops. Whereas one in three of those who had meningitis in World War I died of that disease, the figures for this war are one in twenty. From wounds of all types in the Solomon Islands and in Guadalcanal there was a death rate of less than one-half of one per cent, which might have been five to seven per cent had we been compelled to depend on the drugs and methods that prevailed in 1918.

"This is, in large part, the contribution of the American pharmaceutical industry. Practically everyone of the great organizations in the field has received from the Army and Navy the award of the 'E' which indicates the magnificent part it has played in the war effort."

The Trend in the Industry

DURING a period of national stress such as the present, manufacturers put their utmost effort into trying to maintain their relative positions in their respective industries. The present is certainly no time for a company to improve its position, and increased profits are not desirable and will be taken away in taxes anyway. But this attempt to maintain position has developed into a trend which is causing companies to expand their activities in their own fields or related fields. For example, we find Bristol-Myers going into the production of ampoule medicinals by the purchase of Cheplin Laboratories. We also find the same company taking over a vitamin expert of long standing. Therefore, it appears that this company is going beyond the relatively small number of drug and cosmetic specialties to which it has restricted itself for the many years since it dropped its long line of pharmaceutical products.

Likewise we find American Home Products buying into the food field through the purchase of G. Washington Coffee, and we find the same company investigating other food companies and drug companies with a view to purchasing and thus broadening its line. We find Standard Brands going into the production of consumer packaging of vitamin concentrates after the many years that the company relied upon Fleischman's Yeast as a consumer vitamin product. We also find this company in a receptive frame of mind toward obtaining other drug companies that will give them distribution in the drug trade.

Proprietary drug companies are working into the ethical drug business to an increasing extent. These manufacturers are looking to the future. In addition they find that by absorbing ethical drug firms they obtain for themselves excellent research staffs which are great value both in the company that they are buying but also to the proprietary drug firm that is doing the buying.

There are not many drug firms of any consequence that are now for sale. They are all very busy and there is really no reason for them to sell. In fact, it appears that new firms could get a toehold in the market under present conditions for the reason that the established manufacturers are too busy with war work and the increased consumer demand to keep up with work.

Charles of the Ritz was the first in the cosmetic industry to receive the A.R.C. award. Robert E. Curran, assistant to the president, and Lieutenant Richard Salomon are shown accepting the award from Aura Woodin and Rose N. Braunstein of the American Red Cross.

When the war is over, the scramble for business will occur. At that time there will be revealed the results of the steps that are being taken by the larger companies now. Practically every company is expanding in one way or another during the present heavy demand for goods, but not everyone is expanding in a way that will mean a better postwar position.

U.S.P. Supplement

An open conference for consideration of proposed standards for new additions to U. S. P. XII by supplement, and numerous revisions and alterations recommended for U. S. P. XII monographs is being held at Hotel Pennsylvania, New York, Friday evening, April 23, and all day Saturday, April 24. This conference is to deal with the forthcoming First U. S. P. XII Bound Supplement. It was originally thought that this supplement would not be required for at least two years, but demands by war interests and the increased revision tempo have required so many changes and additions that its immediate publication has become necessary. The First Bound Supplement will carry an order coupon for a Second Bound Supplement, if and when such publication is found necessary before the appearance of U. S. P. XIII which is expected to be published late in 1945.

Proposed additions to U. S. P. XII to be included in the First Bound Supplement are: Hexavitamin Capsules containing not less than 5,000 units vitamin A, 400 vitamin D, 70 mg. ascorbic acid, 2 mg. thiamine hydrochloride, 3 mg. riboflavin, 20 mg. nicotinamide; Totaquine Capsules; Tryasyn B Capsules containing not less than 2 mg. thiamin hydrochloride, 3 mg. riboflavin, 20 mg. nicotinamide; Triasyn B with Liver Capsules containing not less than 2 mg. thiamine hydrochloride, 3 mg. riboflavin, 20 mg. nicotinamide, 1 gm. liver B-vitamins concentrate; Liver B-vitamins Concentrate, being a concentrate of water-soluble constituents of liver without fractionation, and containing in each gm. not less than 300 micrograms riboflavin, 1 mg. nicotinic acid, 12 mg. choline; Liver B-vitamins Injection containing in each cc. not less than 80 micrograms riboflavin, 500 micrograms nicotinic acid; Ergonovine Maleate Injection; Triasyn B with Liver Injection containing in each cc. not less than 3 mg. thiamine hydrochloride, 500 micrograms riboflavin, 10 mg. nicotinic acid, 1 cc. liver B-vitamins injection; Stronger Solution of Hydrogen Peroxide (8 per cent); Dried Yeast; Sulfadiazine; Sulfadiazine Sodium; Sterile Sulfadiazine Sodium; Sulfaguanidine; Sulfathiazole Sodium, Sterile Sulfathiazole Sodium, Dried Yeast Tablets, Sulfadiazine Tablets, Sulfaguanidine Tablets, Totaquine Tablets, Triasyn B Tablets (same potency as capsules), Triasyn B with Liver Tablets (same potency as capsules); Water Soluble Menadione (for parental use) (Medadione Bisulfite?); Succinylsulfathiazole; Succinylsulfathiazole Tablets; Medicinal Zinc Peroxide (germicide in surgical cases); Peoflavine Hydrochloride (used extensively at the front); Dried Defatted Ergot (has good keeping qualities); Stilbestrol; Stilbestrol Capsules.

ALCOHOL SUPPLIES

At the end of last month the alcohol situation for this year was favorable insofar as requirements for war and essential civilian requirements are concerned. Existing capacity is estimated at 490 million gallons annually. To start off the year there was a stockpile of 54 million gallons over that held by private operators and government arsenals. Three new plants with a combined capacity of 40 million gallons are expected to be in operation by Fall. Sites were selected in March for five more new plants with a capacity of 36 million gallons. Requirements for the year being placed at 510 million gallons, it seems that production and consumption are very nearly balanced. Productive capacity for 1944 is placed at 530 million gallons, with requirements estimated at 590 to 640 million gallons. The production estimates do not take into account the five new plants or contemplated expansion in existing facilities. Thus the picture is bright when contrasted with a year ago.

Production of alcohol in 1941 totaled 157 million gallons, of which 70.4 per cent was from molasses, 23.4 per cent from ethyl sulfate, 5.9 per cent from grain, and 0.3 per cent from other materials. Output in the four month period July-October 1941 totaled 73 million wine gallons, compared with 48 million wine gallons in the same period of 1940. Molasses to the extent of 223 million gallons was used for alcohol manufacture in 1941. With the outbreak of hostilities it was necessary to seek sources other than molasses, due both to the increased demand and the submarine menace and other factors which caused a shortage of transportation for importation of molasses.

The keynote of the present program is the substitution of grain for molasses. The present proportions are 75 per cent from grain, 15 per cent from molasses, and 10 per cent from petroleum. It is expected that about 136 million bushels of grain will be used in 1943 and about 200 million bushels in 1944. Only about 3 million bushels were used in 1941. Corn and rye were previously the leading grains used, but during the latter part of 1942 larger proportions of wheat were used, and it is planned that wheat will continue to supply a large part of the raw materials consumed during 1943-1944. There are large stores of edible grain available, as well as huge stores of damaged grain that can be used for alcohol production but not for food. The alcohol yield from this "sick" wheat is even slightly better than from sound grain. A cooperative arrangement has recently been worked out whereby government-owned wheat will be sold to flour mills for manufacture into granular flour for sale to distillers. Experiments have shown that granular flour, a free-flowing wheat flour from which the bran and wheat germ have been removed, yields more alcohol per 100 pounds than does corn or corn-wheat mixtures.

In the granular flour program, up to 40 per cent of the whole wheat—bran, husks, germ, and so on—has been removed at the flour mill, where it is transformed into feed for livestock. The 60 per cent that is left is more easily handled by the alcohol plants. The need for additional grinding equipment is eliminated and the otherwise idle capacity of the flour mills is used. When the beverage industry is completely converted in May 1943, it will have a capacity of 250 million gallons of industrial alcohol. Approximately 94 or 95 per cent of the beverage alcohol industry will be converted, the remaining 5 or 6 per cent continuing to make "high wines" which will be sent to industrial alcohol plants for conversion into high proof alcohol. Formerly only about half the whiskey industry was equipped to make 190 proof alcohol, the remainder making "high wines," or raw whiskey of 120-140 proof.

Plants in New Orleans and the vicinity may continue to use molasses, both black strap and invert, which may be available from Cuba and domestic sources. In California the wineries have been given a quota of 6 million gallons to be produced from Hawaiian blackstrap. The eight new plants scheduled for construction are to be located at various points in the grain belt. The sites were chosen after careful surveys with a view to available water and rail transportation and steam supply from existing boiler equipment.

Alcohol from petroleum gases has increased from 7 million gallons ten years ago, to a present rate of about

Alcohol production is being rapidly expanded to meet wartime demands. New raw materials and new processes are being used and investigated. This expansion is of prime importance to this industry, since curtailed supplies of alcohol are certain unless the demand for the war effort can be completely filled.

50 million gallons annually, a quota for 1943 of 60 million gallons. Ethyl alcohol can be made very cheaply from ethylene. Also the same plant that makes and separates pure ethylene for synthetic ethyl alcohol may also convert ethylene to ethyl chloride, heretofore made from alcohol, and this in turn is used in the manufacture of tetraethyl lead. The same cracking plant which makes ethylene inevitably produces propylene and may also yield butadiene. Propylene is converted to isopropyl alcohol, and this in turn to acetone by catalytic dehydrogenation.

In addition to the three major sources—grain, molasses, and petroleum, which are being called upon to furnish the alcohol needed for the war program, there are a number of other raw materials now receiving attention as potential suppliers. These include other agricultural and forest products containing sugar and starch. Forest products furnish two important sources of alcohol, one of which is sulfite liquor, a waste product produced in pulping softwood for paper manufacture. This liquor contains fermentable sugar from which alcohol can be made. The process is one of pressure-cooking the wood in an acid solution with sulfur dioxide combined with lime. The cellulose is the main product but in the liberation of the cellulose a very definite percentage of sugar is released which comes out in the liquid and is blown off and discharged into the stream as waste. The sugar content of that liquid is usually about 2 per cent, of which 75 per cent is fermentable into alcohol. Yields of sugar are higher from softwoods than from the broad-leaf species or the hardwoods. In the coniferous species—fir, spruce, hemlock—the yield is slightly variable per weight of wood as between species.

A plant is being built in Canada for production of alcohol from sulfite liquor, and plants of this type are being urged in the Pacific Northwest. It is said that the Canadian plant, which will be operating by the first of May, will produce from 900 thousand to one million gallons a year at a cost of 20 cents a gallon. This process has long been used in Sweden, but was not as economical as molasses when operated in this country. However, cost is not now the main consideration.

Plans for extensive experiments in the production of alcohol from products of wood hydrolysis have been completed by the Office of Production Research and Development. The experiments, expected to be carried on for about six months, will be designed to provide the necessary basic engineering knowledge for the construction of a wood-sugar plant utilizing the Scholler process developed in Germany. Valuable information about this process has been given to this country by German refugees, notably E. M. Schaefer, formerly president of the Scholler-Ternesch Company. Test of the German process will be conducted in two privately owned pilot plants in Michigan and Tennessee under the supervision of the Forest Products Laboratory of the Department of Agriculture. The Office of Production Research and Development will make available approximately $55,000 to the Forest Service to finance operations.

Since both the pilot plants belong to American companies which had Scholler licenses before the war, considerable technical data concerning the Scholler process is already available in this country, but plans and detailed specifications for plant construction nor the exact operating data from which such plans and specifications could be prepared were not available. Any private concern having a legitimate interest in the development of the Scholler process will be given access to information on all stages of progress of the experiments so that it may be in a position to offer to engineer and operate a commercial plant whenever the construction of such a plant appears justified.

Mr. Schaefer has been largely instrumental in forming the American Wood-Sugar Company, Inc., of which P. L. Frailey, well known in this industry, is president.

While these processes will produce alcohol at a higher cost than from molasses or petroleum, they will serve a real purpose now. Whether or not they will exist after the war depends on the economics of alcohol production at that time.

GLASS CONTAINER AND CLOSURE SUPPLY*

By C. L. LIGHTFOOT†

GLASS plants are operating to capacity, endeavoring to meet the increased demand for containers to package chemicals, drugs, foods and other products essential to the welfare of our nation. Elimination of production of containers for products rated non-essential means more glass bottles, jars and jugs for all products with essential ratings.

The aim of the glass container industry as a whole is to supply containers to the fullest extent of its plant capacity for products essential to the war effort; and the maintenance of the health, morale and welfare of our men in the armed forces, our allies and the home front.

Basically, raw materials used in the glass batch are by and large non-critical and plentiful. All present indications point to a continuation of the flow of raw materials on an even keel; there being, however, one cloud on the horizon—that of transportation of raw materials, particularly glass sand.

Closures

WPB order M-104 covers quotas presently allowed for drugs, pharmaceuticals and chemicals. If present restrictions impair or threaten to impair the health of the people of the nation, it is very likely restrictions will be relaxed and quotas increased.

Metal Caps

The metal situation is somewhat improved, resulting in the present tendency toward relaxed restrictions. Sufficient tonnages of metals are now allowed under the controlled materials plan to meet present quotas and any additions that may be made to them; which means that if your products qualify for metal caps the closure industry will be in position to furnish them.

Molded Caps

The principal restraining factor to the manufacture of molded caps has been the shortage of formaldehyde available and necessary as a base for the formation of molded powder. In addition, acute shortage of phenols make it necessary to obtain powder on allocation only.

The denial of the use of phenolic powders entirely, perhaps for the duration, for wines and liquors and other non-essentials, when analyzed, leads to the conclusion that probably drugs, pharmaceuticals and chemicals on the preferred list for closures will find more phenol molded caps available as time goes on.

Due to the restrictions imposed on phenols, the demand for urea molded caps has increased, as anticipated, to such an extent that now urea supplies have reached a critical stage, and, as a consequence, may be obtained only on allocation. However, increased use of urea powder has relieved the phenol situation so that, during February, none was allocated to closure manufacturers. This means that the phenol situation has eased to the point where phenol molded caps can be obtained for essential products on a 100% basis, instead of the 60-40 ratio that prevailed prior to January.

Liners

On all liner materials, restrictions have been enforced through allocation of material.

One of the most important liner facings, vinylite, has for some time been unobtainable. Present indications show some relief in this direction—in fact, now, where vinylite is an absolute essential in sealing a product, it can be obtained. But, where a substitute liner will serve it should be used whether the product is essential or not. Substitute liners, while inferior, have on the whole worked very well, and are deserving of a lot of credit for some very fine sealing jobs.

Foil liners are still unobtainable except on a very high preference rating.

The paper shortage effects all liner materials, making even pulpboard and feltboard backing difficult to obtain. While it is hoped that paper for liners will not become critical, it is possible, even now, that many substitutes will have to be made using materials at hand in lieu of those that become unavailable.

Cartons

The most serious threat to the packaging industry today comes from the paperboard suppliers. This is due in part to mills producing only about 80% of the normal production of paperboard—caused by inability, due to manpower and transportation shortages, to supply a greater amount.

*Read before meeting of Production Committee of American Pharmaceutical Manufacturers Association, New York, March 27.

†Anchor-Hocking Glass Corporation, New York.

The question of supplies of glass containers and closures is one that is constantly bothering manufacturers. Mr. Lightfoot has given the answer to this question as well as it can be given under existing conditions.

C. L. LIGHTFOOT

Then too, 25% to 30% of production is requisitioned by the government for heavy, solid fibre, overseas cases. The result—definite paperboard shortages—there may not be enough to go around.

With the reduced inventories of roll stocks of paper the corrugating plants are setting up and freezing their schedules for two weeks in advance. Container manufacturers are thus forced to tie paper requirements into manufacturing schedules from three to four weeks ahead, thus further limiting the flexibility of glass machine schedules.

Packers of drugs, pharmaceuticals and chemicals can help lick this shortage by cooperating in the following manner:

1. Eliminate for the duration the use of double wall cartons except on rated orders for the armed forces or Lend-Lease.
2. Switch from A style cartons to B or C styles.
3. Discontinue the use of smaller unit cartons. For example, do away with A ½ doz. Carton where the 1 doz. size can be used.
4. Return for re-use the larger quantities of shell or service cartons.
5. Use plain cases for the duration—this will help to speed up service.

Transportation

Increases in the time required for transit of railroad freight shipments, amounting in some cases to as much as 50% compared with the summer of 1942, coupled with the knowledge that our motor carriers are gradually wearing out, and are largely irreplaceable, have been and appear to be the chief concerns of transportation experts. These adverse factors, it is claimed, offset gains in the field of heavier carloading and made necessary further transportation conservation.

However, it is acknowledged that the railroads and trucks are doing a good job. Under consideration by the office of Defense Transportation is the proposed coordination of rail and truck movements, limiting trucks to short hauls, and railroads to the longer hauls. This is strictly in the interest of conservation of motor carriers. While this movement is not considered as favorable in its present form, it is hoped that revisions may be effected in the final draft which will permit coordination of freight shipments and still make it possible for both agencies to render efficient service.

Conclusion

We should all specialize on thinking in terms of today's conditions rather than in terms of the past.

It is the earnest and sincere desire of the industry to continue to serve its customers, but it is essential for them and for the industry to operate in a manner in tune with the difficulties existing today.

We must all be willing to accept the fact that three weeks service today is probably as good as three days service was two years ago and govern ourselves accordingly.

Cooperation in placing orders far enough in advance to enable us to tie container, closure, paper and transportation requirements into our manufacturing schedules will go a long way in helping to solve today's difficulties and assure you a continued supply of packages for your chemicals, drugs and pharmaceuticals.

Further Alcohol Cut?

THERE are strong reports that alcohol is going to be cut further and quite drastically for cosmetic use. We hope that the cut is not too severe, but it is hard to tell. Isopropyl is still available, but some requests for this have not been filled by the WPB. Perhaps the number of emulsified products will increase as time goes on, but these cannot be compared with alcoholic preparations when we get all through and there is no use in fooling ourselves. They are just good enough to supply the demand for the duration.

SUGAR ALCOHOLS IN OFFICIAL PREPARATIONS

By C. JELLEFF CARR, Ph.D.

THE sugar alcohols have been studied as substitute carbohydrates in the diet of animals and man.[1, 2, 3] The nitrates and certain anhydrides of the sugar alcohols have been examined pharmacologically[4, 5] and Sorbitol and Isomannide have been suggested as diuretics.[6] The unique properties of the sugar alcohols recommends these compounds as superior pharmaceuticals in many official preparations. In general the compounds are chemically stable, non-volatile, water soluble syrups or crystalline compounds that may be advantageously substituted for glycerin in some pharmaceutical manipulations.

Physical Properties. The commercial variety of sorbitol available for pharmaceutical use is the syrup containing approximately 15 per cent water and of a consistence of commercial glucose. The compound possesses a pleasant sweet taste, is non-toxic and follows the same fate in the body as does glucose from which it is made by electrolytic reduction. Commercial mannitol is available as a white crystalline compound. This isomer of sorbitol also possesses a sweet taste. It is soluble to the extent of approximately 15 per cent in water and like sorbitol, this surgar alcohol, within gastrointestinal limits, is non-toxic. Its laxative action limits its utilization by the body. Each of these compounds, like glycerin, is laxative in large quantities. Mannitol is the chief constituent of Manna N.F. VII.

The fatty acid esters of the sugar alcohols and their anhydrides are emulsifying agents. They are used for numerous purposes in industry and in the preparation of some edible emulsions. These compounds or the parent substances act as plasticizers, softeners, and flexibilizers of water soluble gums and some are used in the preparation of cream or paste emulsions and shortenings.

Official Preparations Prepared Using These Substances

1. *Emulsion of Liquid Petrolatum.* The following formula has been developed as a very satisfactory substitute for the U.S.P. XII formula.

Liquid petrolatum	500	cc.
Mannitan monostearate	0.5	Gm.
Syrup	100	cc.
Vanillin	40	mg.
Alcohol	60	cc.
Distilled water, a sufficient quantity To make	1000	cc.

Dissolve the mannitan monostearate in the oil by warming and add the other ingredients, emulsification takes place immediately, no special care is required to insure a permanent, stable emulsion. The 125 grams of acacia or other gum or Pharmagel is omitted and a more satisfactory and easily prepared emulsion is obtained. Other official emulsions could be so modified or other esters could be used in the place of mannitan monostearate. An emulsion prepared according to the foregoing formula has been stored for two years in a flint glass bottle exposed to direct sunlight. The preparation separated after eighteen months but could easily be reemulsified by agitation of the bottle. The taste, odor, color and viscosity were excellent at the end of the storage period.

Sugar Substitute. Sorbitol syrup was substituted in this formula in place of the syrup. This preparation separated after two months and could be easily reemulsified by agitation. The taste is not like the syrup preparation but possesses the characteristic, pleasant sweet taste of sorbitol syrup. The sorbitol present in such a preparation may augment the laxative effect.

2. *Aromatic Elixir.* A formula is suggested that requires only one rapid filtration in order to obtain a sparkling clear elixir. If sorbitol syrup is substituted for the sucrose syrup in the U.S.P. formula the volatile oils are more soluble and the preparation filters more readily to give a clear solution. This preparation has been found to be perfectly stable over a two year period.

3. *Elixir of Aminopyrine* N.F.VI. An illustration of the novel solvent properties of the sugar alcohols is demonstrated by this preparation. The alcohol required to dissolve and retain in solution the aminopyrine may be practically eliminated. The glycerin and the syrup are completely omitted. A suggested formula is as follows:

Aminopyrine	40 Gm.
Compound Sp. of Orange	3 cc

With the shortage of glycerin, the question of substitutes has become a most pressing problem. Dr. Carr discusses the use of sugar alcohols to replace glycerin in official drug preparations.

Alcohol	10 cc.
Sorbitol Syrup	50 cc.
Compound Tr. of Cudbear	10 cc.
Distilled water, a sufficient quantity	
To make	1000 cc.

Dissolve the aminopyrine in the sorbitol syrup with the aid of gentle heat, add the alcohol, and the other ingredients and filter. The completed preparation contains approximately 9 per cent alcohol instead of 20 per cent in the present N.F. preparation. The taste and appearance are quite satisfactory and the preparation stable.

4. *Solvents for alkaloids and their salts.* The polyhydric nature of the sugar alcohols imparts to them some unusual solvent properties. Thus commercial sorbitol syrup is an excellent solvent for codeine sulfate and because of its sweet taste and syrupy nature serves as a good vehicle for dissolving codeine salts in cough syrups.

Glycerin Substitutes

5. *Glycerite of Tannic acid.* The substitution of commercial sorbitol syrup for the glycerin in the preparation avoids the necessity of using the sand bath as the reaction is completed at water bath temperature. A perfectly stable "glycerite" is obtained.

6. *Glycerite of Starch.* In this preparation likewise the sand bath may be discarded in favor of the water bath when sorbitol is substituted for the glycerin. The compound does not decompose or grow a mold and can be incorporated with medicinal agents readily. By varying the amount of sorbitol the degree of stiffness of the gel may be adjusted to different needs.

7. *Glycerinated Gelatin.* If mannitol is substituted for the glycerin in this preparation a chemical combination occurs that renders the product adaptable to a number of uses. Volatile oils may be readily dissolved in this preparation and the consistence may be modified by changing the amount of mannitol. Larger quantities give a softer gel with a higher M.P. desirable for suppositories. The delightful sweet taste of mannitol and its solvent properties make this base an excellent one for lozenges. Commercial sorbitol-gelatin is available as a trade item.

8. *Syrup of Ipecac.* An illustration of how syrups may be prepared by omitting the glycerin is illustrated by this preparation. If the Syrup of Ipecac is made according to the U.S.P. XII the glycerin and the syrup may be replaced with commercial sorbitol syrup. The resulting preparation is very satisfactory in appearance and tastes better than the U.S.P. product.

9. *Syrup of Wild Cherry.* Replacing sugar and glycerin in this preparation the Syrup of Wild Cherry may be made as follows:

Wild cherry, in coarse powder	150 Gm.
Sorbitol Syrup	850 cc.
Distilled water, a sufficient quantity	
To make	1000 cc.

Mix the sorbitol syrup (50 cc.) with 200 cc. of water and moisten the wild cherry with this mixture and pack it in a percolator and pour the remaining 150 cc. of menstruum upon it. When this has disappeared from the surface add 200 cc. of water to saturate the powder and leave a stratum above it. Macerate for one hour. Collect the percolate and add 800 cc. of sorbitol syrup and then enough additional water through the drug to make up to volume. The alcohol may or may not be added. This preparation is apparently quite stable with the sorbitol without alcohol. The advantage gained by not having to heat to dissolve the sucrose and the simplicity of percolation is appreciable. The U.S.P. XII has decreased the amount of glycerin and sucrose in this preparation. With the foregoing formula these ingredients may be omitted entirely. The preparation as described here is an elegant pharmaceutical and is perfectly stable. It should be pointed out that the taste of these syrups differs from those containing sucrose. The taste is pleasantly sweet and, according to some individuals, superior to the official product.

10. *Mass of Ferrous Carbonate.* A pill mass of ferrous carbonate prepared from Merck's dry powder is readily made using sorbitol syrup alone and omitting the honey or simple syrup. The ease with which this preparation can be incorporated into pills is a distinct advantage to the dispensing pharmacist.

(*Continued on page 458*)

DYES IN MODERN MEDICINE

By M. A. LESSER

THE synthetic organic dyes, often referred to as "coal-tar" dyes, occupy a most important place in modern medicine. Widely used and extremely valuable as antiseptics, fungicides and parasiticides and for their special effects on tissue cells to hasten healing, these colorful agents find particular usefulness in numerous diagnostic procedures of both a laboratory and clinical nature.

Although gentian violet was introduced as an antiseptic as far back as 1890, it is generally accepted that the medical importance of organic dyes was not really appreciated until 1912, when Churchman[1] reported the bactericidal effect of gentian violet. The great bacteriologist, Ehrlich introduced acriflavine to medicine during the same year. Since that time many agents of this type have been enthusiastically suggested for inclusion in the medical armamentarium, but actually only relatively few dyes find wide therapeutic use. Most of the more valuable agents of this nature are of comparatively recent introduction, for the large part during the last decade.

The question of toxicity enters strongly into the medical uses of dyes, hence the importance of purity and uniformity. However, the majority of such agents in common use have a fairly wide margin of therapeutic safety. Many are administered orally for treating systemic conditions, combating parasites or for diagnostic purposes, while some are administered intravenously under certain circumstances.

Pharmacologists[2, 3] usually classify the medically useful dyes on the basis of their chemical structure, as follows: (a) azo dyes, (b) acridine dyes, (c) fluorescein dyes, (d) phenolphthalein dyes, (e) triphenylmethane or rosaniline dyes, and (f) miscellaneous dyes. In a general way, it may be said that each of the groups have outstanding characteristics which determine their usefulness. Azo dyes, represented chiefly by Scarlet Red, find their widest use as wound-healing agents rather than as antiseptics and are extensively employed in the treatment of burns, wounds, chronic ulcers, bed sores and the like.

Despite the fact that they were introduced as trypanocides by Ehrlich, the acridine dyes, of which Acriflavine is the leading example, find a variety of uses on the basis of their bactericidal action. Employed in the treatment of wounds, for application to the mucous membranes of the nose and throat, in the therapy of gonorrhea and for suppurative infections of the middle ear and mastoid, the acridine dyes were formerly widely used as urinary antiseptics but have been replaced by other, more effective drugs.

Fluorescein and mercurochrome are the only two members of the fluorescein group that are of any medical importance. The former is chiefly useful as a diagnostic aid in opthalmology while the latter, because its antiseptic action is due to its mercury content, hardly belongs in the dyes category.

With the exception of phenolphthalein which finds wide use as a cathartic, other members of the phenolphthalein group of dyes are valuable largely as diagnostic aids. These dyes are used in special tests for determining kidney function or liver function and for the X-ray visualization of the gall bladder.

Skipping momemtarily the fifth group, and coming to the miscellaneous group, it is found that as the only important member of this group, methylene blue, has had a very interesting past, but not a very useful present status. Outside of the bacteriological laboratory, where it is used as a very important staining agent for microscopy, this dye has few medical uses today, even though it was recommended as an intestinal and urinary antiseptic over fifty years ago. However, there is some evidence that methylene blue may be of value to reduce or prevent the incidence of methemoglobinemia from sulfanilamide medication.[4]

Considered from the aspects of wide utility, versatility and general effectiveness, there appears to be little doubt that the members of the triphenylmethane (rosaniline) group constitute the most important of the therapeutically useful dyes. The literature of the last few years is quite replete with references to such agents as gentian violet, crystal violet, methyl violet and brilliant green. Although the three violets differ in their chemical composition, actually there is butlittle difference in their therapeutic effectiveness. Indeed some writers make the not-too-grevious mistake of discussing these three dyes on a synonymous basis. On a theoretic basis crystal violet should be the one most

To a rapidly increasing extent, modern medicine is relying upon coal tar dyes for the treatment of disease. The many dyes that are in medical use today indicate the expansion that has taken place since gentian violet and acriflavine were introduced in 1912.

used, but gentian violet (sometimes defined as a mixture of methyl and crystal violet) has found the widest study and application. Acid and basic fuchsin also belong to this group.

Powerful antiseptics even in fairly high dilution, these rosaniline dyes have not only been used in the treatment of wounds, burns, oral infections, dermatological conditions and other infectious processes, but also, as in the case of gentian violet, as anthelmintics with highly effective action against certain intestinal parasites. Illustrative of their wide utility is the listing given by Goodman and Gilman[3] of specific conditions for which these dyes have been employed; empyema, suppurating joint, cystitis and urethritis, Vincent's angina, infectious eczematoid dermatitis, infantile eczema, furunculosis, recurrent dermatomycosis, monelial paronychia, chronic ulcers and bed sores, impetigo infectiosa, pruritus ani and pruritus vulvae.

With these facts as a background, it is possible to go into more detailed illustrative examples of the uses of dyes in general. For convenience sake such applications may be divided into three main categories, e.g. external applications, internal administration and diagnostic procedures; emphasizing the first two.

Undoubtedly the most important use of dyes is their employment to destroy infectious organisms, with burn treatment as a good second. Externally, gentian violet has been used in 1:1000 to 1:50 aqueous solutions for skin antisepsis. A solution consisting of 0.5% gentian violet and 0.5% brilliant green has been employed in surgery to sterilize the skin prior to operations. Though rather slow-acting, it has been found that acriflavine in buffered saline is the safest antiseptic to be employed for treating exposed brain tissue—a prime consideration in skull fracture and war injuries.[5]

Dyes are also finding increased use as antiseptics in dentistry and for the treatment of specific oral infections. Solution of gentian violet, for example, is frequently employed following extractions and other forms of dental surgery. The official Scarlet Red Ointment also is applied on denuded oral surfaces to aid the growth of epithelium. Dyes, alone or in combination, are of frequent value in treating trench mouth and Vincent's angina. Thus, Williams[6] advocates the following solution, to be applied daily, as a bacteriostatic in cases of Vincent's disease:

Neutral acriflavine	0.5 Gm.
Gentian violet	0.5 Gm.
Distilled water	100.0 cc.

In the general treatment of open wounds, solutions of dyes, such as 1:1000 solutions of acriflavin in physiological saline, are sometimes employed for syringing, swabbing and irrigation. According to the N.N.R.,[2] an ointment has been used in the treatment of open wounds which contains 1% of proflavine oleate in a base consisting of equal parts of petrolatum and calcium carbonate. Applied on gauze or directly to the cleaned wound, it is said that the primary dressing need not be changed for several days.

Although their staining proclivities are a decided disadvantage, dye-containing preparations are often used in the treatment of dermatological conditions, especially those due to fungi. Some indication of their usefulness in this connection has already been considered above, but the value of dyes in the therapy of mycotic infections warrants more than passing mention. Thus in discussing the treatment of ringworm in recruits, Brain[7] advocates so-called paints made with aniline dyes for treating certain phases of this condition. For example, in cases of tinia carcinata (ringworm of the non-hairy skin) it is suggested that a 2% aqueous solution of gentian violet or triple dye be used in certain phases of treatment. Similar paints are used for ringworm of the groin.

Subacute cases of epidermophytosis (athlete's foot) also benefit from dye preparations such as 2% gentian violet in alcohol or Castellani's paint.[8] Indeed, Castellani's paint (carbolfuchsin solution) finds many uses in dermatology not only for the treatment of subacute or chronic ringworm, but also for nummular eczema, intertrigo,[9] pruritus ani[8] as well as mycotic infections of the ear.[10] However, Tobias[8] recommends the following paint as being more useful than Castellani's solution in subacute dermatophytosis:

Saturated alcoholic sol. of gentian violet	10.0 parts
Aqueous solution phenol (5%)	100.0 "

(*Continued on page 454*)

OIL OF WORMSEED

A SURVEY

By DR. ERNEST GUENTHER*

(Continued from March issue)

Distillation

The production of high grade wormseed oil is subject to several factors, some of them beyond the control of man:

1. Rainfall right after planting in the early summer and dry sunny weather during maturing, seed formation, and especially during the harvest, favor development of oil in the plant and a high ascaridole content. Rainfall during seed formation and especially during the harvest results in a low yield and an inferior quality of oil.
2. As pointed out previously, yield and quality of oil depend greatly upon the state of maturity at which the plant is cut. The riper the seed on the plant, the higher is the content of ascaridole.
3. The method of distillation has considerable influence upon yield and quality of the oil.

In the nineties of the last century, chenopodium stills were of rather primitive construction, the inadequate condensers causing the distillate to run warm, if not hot. Yet, the oils were of good quality, clearly soluble in ten volumes of 70 per cent. alcohol. Suddenly oils appeared on the market which were soluble only in 80 per cent. alcohol and, besides, had a lower specific gravity. Even the most thorough analysis showed no adulteration and, therefore, inquiries were made in the producing regions as to whether the distillers had modified their methods of operation. Since no satisfactory explanation could be found, Messrs. Schimmel & Co.[1] carried out distillation experiments in their plant and arrived at the rather startling conclusion that too efficient cooling of the condensers was the main reason for the inferior solubility and the lowered specific gravity of the new oils. Very probably the producers in Maryland had installed new and more efficient distillation equipment, aiming at a higher yield of oil by better cooling in the condensers. At low temperatures the difference between the specific gravity of chenopodium oil and that of the distillation (condensed) water is so small that oil and water separate only with difficulty and not completely. The heavier portions of the oil remain suspended in the water which runs off as a milky emulsion. This results in a poor yield as well as lower specific gravity and inferior solubility of the oil which is partly deprived of its most soluble, heaviest and most important constituent, viz. ascaridole. If the milky distillation waters are pumped back into the still and redistilled together with the next batch of plant material, the ascaridole, a very labile compound, is decomposed and the oil thus obtained is also subnormal. The chemical constitution of ascaridole was elucidated only in 1912, but previously it had been shown[1] that the main constituent of chenopodium oil, when boiled in water for some time, decomposes, forming thereby compounds of lower specific gravity which are not quite soluble in 70 per cent. alcohol.

The old fashioned, rather primitive stills with inadequate condensers gave a higher yield and a better quality of oil for the simple reason that at elevated temperatures the difference between the specific gravity of oil and that of distillation (condensed) water is great enough to permit easier separation of oil and water. The spent water runs clearer because it contains very little oil in suspension. The oil is richer in ascaridole and, therefore, of higher specific gravity and better solubility in 70 per cent. alcohol.

Gildemeister and Hoffmann[1] suggest that the distillation water be discarded, provided the temperature of the condensate is kept sufficiently high. However, Weiland, Broughton and Metzger[2] showed that the water layers usually contain some oil which, if not recovered, amounts to an appreciable loss. They recommend collecting the aqueous layers and returning them by means of a steam siphon to a retort to be redistilled separately, i. e., not together with plant material. They showed that the cohobation oil contains up to 85 per cent. ascaridole. Pauley[3] found that practically pure ascaridole was obtained by redistillation (cohobation) of waste liquids from distillation of the herb. By following the suggestions of Weiland, Broughton and Metzger, not only is a higher quality oil achieved but also an increase by 15 per cent. in the total oil recovered, thus making installation of a simple cohobation still more

1. *Ber. Schimmel & Co.*, April 1908, 108.

*Chief Research Chemist, Fritzsche Brothers, Inc., New York.

1. *Die Atherischen Ole*, 3d Ed., Vol. II, p. 538.
2. *Op. cit.*
3. Ph.D. Thesis, University of Wisconsin, 1931.

than worth while. Unfortunately, not all the distillers of Maryland are willing to take advantage of this fact.

Today distillation in a modern wormseed oil distillery proceeds as follows:

Approximately 1000 pounds of dried plants are packed tightly into a still of almost 1,300 gallons capacity. The plants are not comminuted previous to distillation. Hinged iron covers, balanced with counter weights, are tightly clamped on the still by means of winged bolts. Steam pressure in a separate boiler is about 100 pounds; the live steam enters the still through a perforated steam coil at the bottom. A grid prevents direct contact of the plant material with the steam coil. Distillation of one batch takes about thirty minutes when the plant material is well dried, longer if the plants are wet. The Florentine flask, where water and oil separate, holds about 50 gallons. It is provided with a siphon which leads the distillation water into a separate still for redistillation (cohobation) whereby about 10 per cent. additional oil is obtained. The distillate flows at a temperature ranging from 120° to 130°F., depending upon prevailing atmospheric temperature and upon the temperature of the creek water used for condensation. Russell[1] found that the most complete separation of oil and water is obtained by keeping the temperature of the distillate at 140° to 163° F. He obtained more oil and a superior quality by rapid distillation with a warm condenser than by slow distillation with a cold condenser. He reports no difference in the quality or yield of oil distilled at a pressure of from 80 to 100 pounds per square inch, but low gravity oils resulted from distillation at 40 to 60 pounds pressure. In order to check the findings of the various investigators, the writer suggested a number of experiments to Mr. E. W. Pickett of the Carroll County Essential Oil Company in Woodbine, Maryland, which were carried out during the distilling season in the fall of 1942. The results were very interesting and should serve as guide for producing oils of highest quality.

Experiment A:

Fourteen hundred pounds of dried wormseed herb were steam distilled for 35 minutes at a boiler pressure of 100 pounds. The temperature of the distillate was maintained between 150° and 160° F. A yield of 16½ pounds of direct oil (1.15 per cent.) was obtained. The oil showed the following constants:

Specific Gravity at 25° C.	0.969
Optical Rotation	−5°39′
Refractive Index at 20°C.	1.4761
Ascaridole Content	84.2%
Solubility at 25°C.	Soluble in 3 volumes of 70% alcohol and more.
Odor	Normal

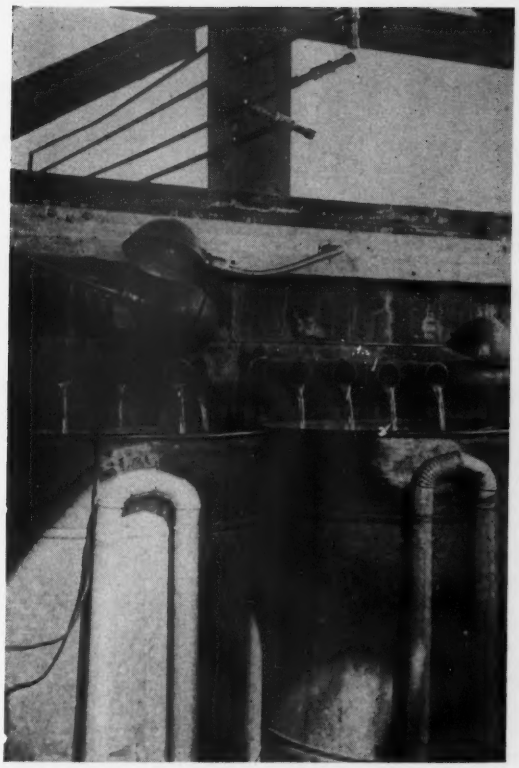
All the properties fall within the limits of the USP XII.

This experiment proves that condensation at the relatively elevated temperature of 150° to 160°F. gives a higher yield and a superior quality of oil, in particular one with a higher gravity, higher ascaridole content and superior solubility.

The distillation (condensed) water of this experiment was redistilled at a boiler pressure of 100 pounds for 45 minutes. The temperature of the distillate was maintained between 150° and 160° F. A yield of 2½ pounds of oil (0.18 per cent.) as based upon the weight of the dried wormseed was obtained. The oil recovered from these waters was found to be practically pure ascaridole. The constants read as follows:

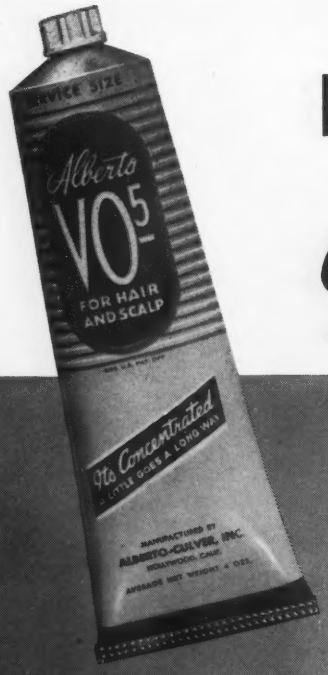
Specific Gravity at 25°C.	1.001
Optical Rotation	−3°23′
Refractive Index at 20°C.	1.4742
Ascaridole Content	101.8%
Solubility at 25°C.	Soluble in 1.5 volumes of 70% alcohol and more.

(*Continued on page 429*)



WATER AND OIL SEPARATION IN WORMSEED STILL

1. *Jour. Amer. Pharm. Assn.* 11 (1922), 255.



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MERCHANDISING NEWS and PACKAGING NOTES

To the Cliffs of Berchtesgaden

For the past several months we've been promising you a set of WPB standards for the simplification of folding and set-up boxes used by this industry. We reviewed the meeting of the pharmaceutical, proprietary and cosmetic advisory boards with WPB officials in charge of simplification and attempted in this way to foretell what course the simplification orders would take if, as and when.

It now appears that we might just as well have saved wear and tear on our typewriter ribbon by ignoring the whole thing completely for that is just what the WPB has apparently decided to do.

Not that we are critical. On the contrary, we cherish this decision as one of the all too infrequent breezes of fresh common sense which every so often dissipate the bureaucratic fog which tends to settle down over the Capital City.

In plain words, the order is out because it involves more trouble and work than the presumed savings would be worth. The game isn't worth the candle so let's not have the game just for the sake of playing it.

This seems much too direct for the democratic process and maybe we will prove that we're not decaying after all. It's going to be tough, though, on officeholders and ponderous editorial writers alike, if this continues. Just think of the untold thousands of man hours now wasted by government and industry alike in the study, formulation, issuance and enforcement of untold thousands of orders which, when they were all working and operating saved maybe one-half of one per cent of this or maybe a bare one per cent of that. An equal amount of thought and effort applied in the other direction might well have served to increase production by considerably more than that.

Now if indeed we're going to be direct instead of tortuous, sensible instead of weighty, then Hitler might just as well cease postponing that inevitable dive from the cliffs of Berchtesgaden.

Cosmetic Stockings

Last year there were so many cosmetic stocking preparations on the market that it didn't seem possible that there could be room for even one more. That was last year. This year practically everyone who ever had a preparation of this type is bringing it out with an "improved formula," and those who never thought much about one are entering the competition. Stores are said to be placing huge orders for the stuff. On the other hand, some stores have found themselves deluged with so many brands that they may have to restrict themselves to just a certain number. This sounds fine from the store's angle, but will the consumer be satisfied with the brands carried or will she insist on one that hasn't been stocked? Whether the consumer will be as enthusiastic as store buyers about cosmetic stocking preparations is something that will be better told next fall, but the fact remains that cosmetic stockings did all right last season, and with the stocking situation as it is, the prospects certainly look good, especially with all the "improved formulas" which promise, "splashproof so that it does not watermark or soil clothing on rainy days . . . Goes on easily and evenly . . . Will not streak or rub off in hot weather . . . Waterproof and streakproof . . . Water-resistant, will not streak or rub off . . . Will not smear or streak, but will give matlike finish until ready to be removed with soap and water . . . Conceals minor blemishes . . . "

This would indicate that some of the difficulties of last year have been over-

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Mr. Richard F. Spicker, 419 West Fifth Street, Cincinnati, Ohio

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come, and if a degree of perfection has been achieved in these preparations, then they doubtless will be the hot weather stocking for the duration anyway, and who knows, perhaps even longer, although when Nylon stockings come back into the picture again sometime, our money's still on them. If that be treason . . . . . .

Obviously these preparations are best used on hair-free legs and it is an excellent way to sell a depilatory along with them, but since there might be some irritation if used directly after a depilatory or shaving, labels might well emphasize that the cosmetic stockings should not be applied immediately.

5 & 10 Package Pricing

The OPA has given permission for manufacturers of 5 and 10 cent retail cosmetic items, such as tooth pastes, tooth powder, shaving creams and lotions, lipstick, face powder, rouge and facial creams, to continue temporarily sale of these products under usual brand names and prices despite a wartime change in containers resulting in a fractional reduction in container costs. The temporary order is to permit disposal of large inventories.

Packaging Products for Armed Forces

Specifications which prescribe the proper methods of packing war materials for overseas shipments were made available today by the Container Coordinating Committee, War Production Board. The specifications are designed to insure proper delivery of war materials in usable condition, with the most efficient utilization of containers and of transportation and distribution facilities.

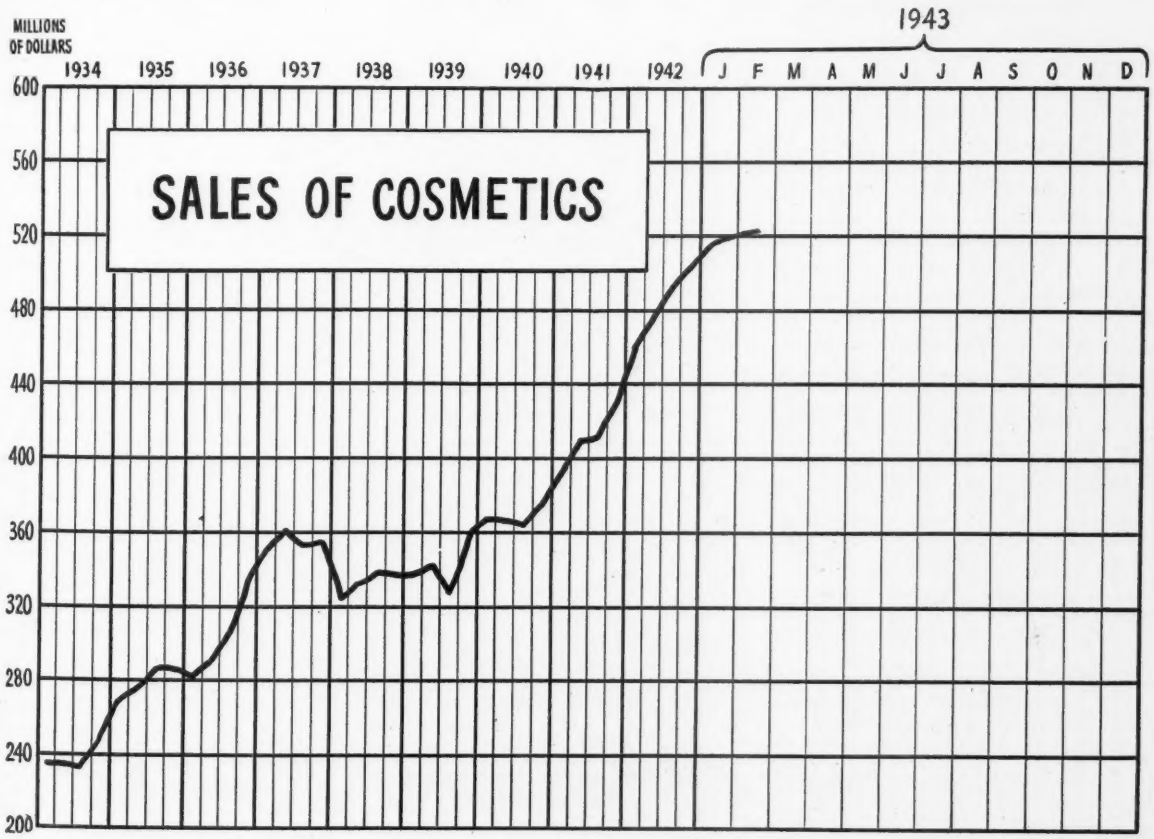
A booklet, "Army-Navy General Specifications for Packaging and Packing for Overseas Shipments" was released by the Division for distribution to manufacturers and shippers engaged in the war program. It is for use by the armed forces, war agencies, and contractors.

The booklet was prepared by the Container Coordinating Committee, WPB, with the cooperation and approval of the Army, Navy, Department of Agriculture, Treasury Department, War Production Board, Office of Lend-Lease Administration, War Shipping Administration, and Office of Defense Transportation.

Check List for New Accounts

John Hudson Moore, Inc., manufacturer of Sportsman, has worked out a simplified control form for aid in classifying new retail accounts as to whether or not they fit into a selective distribution picture. A small, one-page form is furnished the salesman which he has only to check for each proposed new account. Twenty perfume and cosmetic companies are listed, including the leading class and mass distributing companies. The salesman is asked to check in the columns alongside whether the products of the companies listed are displayed or featured by the store and also whether they are bought direct. The only other information requested is the names of the toilet goods salesgirl or the fact that one is employed.

While not by any means an absolute check, this does give a company a working basis for appraising the character of a store. It also serves to put some brake on an enthusiastic commission man who might spread a popular line into the type of store which might ruin a territory for selective distribution.



Sales of cosmetics for the twelve months ended February 1943 totaled $520,601,000, an increase of about $3,000,000 over the $517,896,000 total for the twelve months ended January 1943.

The Cosmetic Trend

Drug and Department Store buyers plan for a summer season of little novelty but necessitating a reapportionment of their assortments to meet their first real summer market under war conditions. The outlook is for shorter vacations (spread more widely over the summer) fewer and much shorter week-ends, less touring. Combined with a growing demand from war workers and victory gardeners this will increase interest in cosmetic utilities with a corresponding decline of outdoor goods, although many of the later are promising to do well because of their application to the needs of working women.

While the majority of buyers have stopped worrying about packaging there remains nevertheless an inclination to watch the effect of the container upon the customers. The tendency is to blame the package rather than the contents where a previous good seller fails to perform as usual.

Orders for perfumes are larger in the case of most stores than during the same time last year, partly because buyers like to protect themselves but also because of a wide spread feeling that perfumes are getting ready for a recovery. Some stores report a decline in the demand for toilet waters as many customers, who formerly bought them because they were cheap, can now afford perfumes.

War workers continue to be interested in non-greasy hair aids. Pressure of work that prevents many women from going to hairdressing stores is expected to boost the sale of shampoos, rinses and wave lotions. Refreshing hair lotions are much in demand.

Make-up is largely purchased on the theory that dye shortages will compel their more economic use. This affects lipsticks, rouges and face powders. There is a tendency too to cut down on shade selection as a precaution for the future. If make-up sales should decline, as some buyers seem to believe, counters will recoup the loss by paying more attention to supplementary facial aids. Creams and lotions are in good demand and base make-up (as vanishing creams, powder sticks and liquid powders) show prospects of growing.

The very dark shades of the nail enamels appear to be on the way out. Stores report a marked increase in thinners and enamels are applied more sparingly. Most stores prepare for a large demand for hand aids, hand protectives and speedy hand cleansers.

Almost all expect a rising demand for grooming and body aids where the more costly luxury articles are rapidly becoming best sellers because of a general rise of incomes. War workers have already given such a stimulus to the sales of deodorants, anti-perspirants and similar hot weather aids that they may have lost much of their value as mid-summer volume builders. Added business for them will come from housewives rather than week-enders this summer.

The general impression is that the bare leg fashion will return in full force and as a result buyers are ordering large supplies of cosmetic stockings. Some are even planning to select just a few brands from the welter of new products and to concentrate on those thus selected.

While prospects for a surprise novelty development are not very promising, there is a feeling that one or the other worthwhile article may show up at the end of the season. "Dry" cosmetics are spoken of in this connection.

Add Drug Trends

The grapevine has it that dentifrices as well as vitamins are soon to make their appearance in grocery stores looking for products to make up the volume lost to rationing. As a matter of fact there is little or nothing to prevent them from carrying and selling a complete household line of drugs.

Glassine Out for Cosmetics

The War Production Board in General Conservation Order M-286 has prohibited the use of glassine and greaseproof papers and vegetable parchment for use on cosmetics, dentifrices, toilet materials and soap except when laminated to the body of a container for powders, dentifrices, toilet materials or soap.

Hand Creams

The old story about when is a cosmetic not a cosmetic—the answer, of course, being when it is a drug—has cropped up again with a vengeance in the case of the hand creams. The big, new industrial market for these creams has been followed by the development of hand creams especially formulated for protection against industrial dermatitis and the like. But since these hand creams are, generally speaking, sold through the same outlets and by the same people as the standard, established brands, it is the path of least resistance to sell the better-known products. And since the standard brands are not asleep to the possibilities of this new market and in their own merchandising emphasize the general features of hand care and protection in the industrial field as well as in the kitchen, this tendency to sell what is known and established increases.

In other words, if we assume that these newer products are formulated to do a certain job for the hands of workers in industry, then, by and large, they have not succeeded up to this point in getting their story over to the salesgirls and retailers in drug and department stores. The latter, generally speaking, make no distinction between the various types of hand preparations. They consider them all cosmetics, sell them as such, and collect the excise tax on them.

Plastics Restrictions

We suppose you already know but cosmetic manufacturers may not use plastics except for vanity cases or compacts not larger than two inches in diameter or two inches square; lipstick holders; and closures for cosmetic containers. Of course, you may only use plastics for the above purposes if you can get the plastics.

Wooden Screw Caps

According to Lewis A. Partridge, secretary of Wood Utilities, Inc., that company is now producing the only wooden screw caps. The caps are supplied in the natural finish with a paper liner in three sizes, 24, 26 and 28 mm., and according to Mr. Partridge, are impregnated with a material which makes them impervious to alcohol and water. The company has two plants, in Rochester, N. Y. and Lawrence, Mass., says that its present production of wooden screw caps is 500,000 a week. The company also produces cellulose acetate caps but on this material its output is sold up.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

April ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1943

Curbay B-G Helps Meet Egg and Meat War Effort Quotas

U.S.I.'s B-Complex Supplement Useful in Chick and Hog Feeds

55,000,000,000 eggs, 4,000,000,000 pounds of chicken meat and over 60,000,000 swine fed to 235 pound weight have been set by the Department of Agriculture as the 1943 quotas needed for support of the war effort. With these increased quotas set, Curbay B-G, U.S.I.'s riboflavin feed supplement, is taking on new importance as an aid in supplying the required units of the B-G complex essential in adequate poultry and hog rations.

Curbay B-G has, through the past years, demonstrated its effectiveness in replacing more expensive Vitamin B-Complex supplements — such as dried skim milk powder. The use of U.S.I.'s product has been responsible for releasing millions of pounds of dried skim milk powder for shipment to the United Nations for human food. Thus Curbay B-G represents a double contribution toward meeting increased food requirements.

Improved Moisture-Proofing Coating Composition Patented

WILMINGTON, Del. — A patent for making a moisture-proof coating composition said to have improved heat-sealing properties and anchorage was assigned recently to a company here.

Plasticizers of the ester type are condensed with resins, either natural, modified or synthetic. Dibutyl phthalate is said to be particularly advantageous as the plasticizer component. Mixing the condensation product with paraffin wax or nitrocellulose, suitable coating compositions are said to be obtained for moisture-proofing regenerated cellulose sheets and films.

The formula for a typical coating of this type is as follows:

	Parts
Nitrocellulose	40
Paraffin wax	2
Ethyl acetate	400
Toluene	160
Alkyd resin	10
Dibutyl phthalate	30

Color-Dispersing Process Prevents Haze in Films

ROCHESTER, N. Y. — A method for dispersing a coloring material in a water-swellable photographic colloid (such as gelatin) and maintaining the particle size small enough to prevent haze in the resulting film has been developed by two inventors here.

The coloring material is mixed with a water-insoluble material, such as collodion, in a common solvent, such as butyl acetate. This solution is then added to an aqueous one containing a dispersing agent. The mixture may next be passed through a small homogenizer and the suspension thus formed heated, preferably under vacuum, to remove the butyl acetate. Finally, the suspension of fine particles in the aqueous solution is added to a gelatin emulsion and, after mixing with it, the resulting emulsion is coated.

Acetoacetarylides Developed By U.S.I. for Research Study

Aid to Manufacturers in Meeting Post-War Needs Seen in Many New Dye Intermediates Produced on Laboratory Scale

Recognizing the growing importance of yellow pigments and dyestuffs, U.S.I. has developed a number of new acetoacetarylides on a laboratory scale in addition to the five now being produced commercially. Acetoacetarylides have proven particularly valuable in the production of the Hansa and newer yellows where an acetoacetarylide is coupled with a diazotized amino compound, preferably containing nitro groups which help to retain the insolubility in oil and thus prevent bleeding.

New impetus to acetoacetarylides as pigment dye intermediates has been brought about by the expanded utility of yellow pigment dyestuffs due to the absorption of chrome yellow production for olive drab pigments. In addition to the Hansa Yellows, toluidine and benzidine yellows have come into favor recently where color tone, brilliance and durability are desired.

New Acetoacetarylides

The heightened interest in acetoacetarylides has both brought about a greater demand for those compounds now commercially available and increased the desire to study new ones with a view to post-war applications. Among the newer acetoacetarylides developed by U.S.I. are the following:

- Acetoacet-para-phenetidide
- Benzoylacetanilide
- Diacetoacetyl-meta-toluylenediamine
- Diacetoacetyl-para-phenylenediamine
- Acetoacet-para-nitroanilide
- Acetoacet-2, 5-dichloroanilide
- Acetoacetyl-alpha-naphthylamine
- Acetoacetcumidide (pseudo)
- N,N'-Diacetoacetbenzidide
- Ortho-phenylacetoacetanilide

Sample quantities of these new compounds will be gladly sent upon request to manufacturers for laboratory experimentation.

(Continued on next page)

Thymolphthalein as Indicator In Red, Brown Titrations

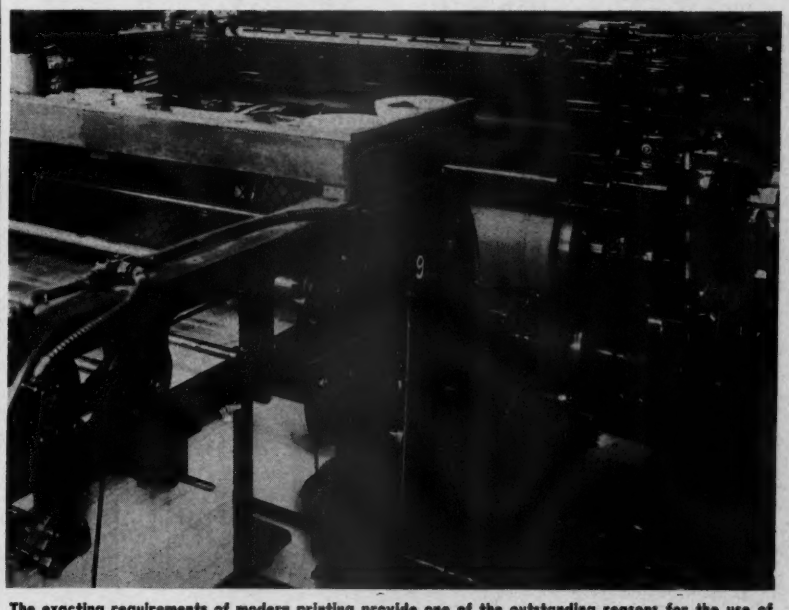
PROVIDENCE, R. I. — Thymolphthalein is a satisfactory indicator to use in titrating reddish or brownish solutions, where phenolphthalein and methyl orange are not satisfactory, according to findings reported recently in "The Chemist Analyst."

Thymolphthalein is said to change from colorless at pH of 9.3 to blue at 10.5. A convenient solution is described as containing 0.1% of the indicator in an 80% aqueous solution of ethanol.

Butanol Claimed to Stabilize Ethanol, Hydrocarbon Mixture

Butanol is a practical stabilizer for the preparation of a fuel mixture of hydrocarbons and ethanol of more than 188 proof, according to a recent report.

The addition of 5% butanol to ethanol of 192 proof, for example, is said to give mixtures stable at —15°. It is noted that the water-absorbing power increases with butanol at a greater rate than with ethanol. Practically, the sensitiveness is claimed to correspond to 19.4° per cc. of water added to 100 volumes of mixture.



The exacting requirements of modern printing provide one of the outstanding reasons for the use of the Hansa Yellows.

ADVERTISEMENT—*This entire page is a paid advertisement.*

April ★ **U.S.I. CHEMICAL NEWS** ★ 1943

New Reagent for Sodium Calls for Use of Ethanol

PRINCETON, N. J. — Systematic experiments have shown that a reagent for the determination of sodium can be produced through the use of ethanol. It is at the same time more insensitive toward lithium and more sensitive toward sodium than aqueous reagents now in common use, according to a chemist here.

The composition of this alcoholic reagent is as follows:

Uranyl acetate dihydrate	40 grams
Cupric acetate monohydrate	25 grams
Glacial acetic acid	100 ml.
Ethanol, 95%	500 ml.
Water	450 ml.

The salts are dissolved in the water and acetic acid at a temperature of 50° to 60° C. and, after cooling down to room temperature, the ethanol added with constant stirring. After standing at least one day, preferably two or three, the mixture is stirred and filtered in the same way as in the preparation of regular aqueous reagents.

Non-Leafing Aluminum Paste Does Not Require Grinding

LOUISVILLE, Ky. — A new non-leafing aluminum paste has been developed by an inventor here in which the deleafing action is brought about chemically without the need for grinding.

The preferred method of making this paste consists of adding to a regular, full leafing aluminum powder a suitable thinner or carrier in which has been incorporated a deleafing agent consisting of the highly polar active alcohols, esters, ketones, and aldehydes.

A typical formula calls for 60 pounds of aluminum powder (fully polished and leafing), 20 pounds of ethyl acetate and 20 pounds of toluol.

Ethyl Acetoacetate Used To Extract Lignin From Wood

Ethyl acetoacetate may be used as a solvent in the presence of hydrochloric acid to isolate lignin from white quebracho wood, according to a recent discovery.

Extension of lignin by this solvent is not quantitative, as determined by the König method, but the greater portion is isolated from the other components. A high hydrochloric acid concentration, 10% of the ethyl acetoacetate, and a temperature of 40° for 24 hours are said to give the best extraction.

New Acetoacetarylides

(Continued from previous page)

One of the most widely known of the acetoacetarylides now produced commercially by U.S.I. is acetoacetanilide. This compound is prepared by reacting ethyl acetoacetate, an important intermediate in dyestuffs and pharmaceuticals itself, with aniline thereby eliminating ethanol. Hansa Yellow G is formed when acetoacetanilide is coupled with diazotized meta-nitro-para-toluidine. The use of other diazotized amino compounds produces slightly different shades.

Other Compounds

Four other acetoacetarylides which may be used in the same general way to produce the desired shades of yellow are also commercially available from U.S.I. They are acetoacet-ortho-chloroanilide, acetoacet-para-chloroanilide, acetoacet-ortho-toluidide, and acetoacet-ortho-anisidide.

Dyestuff manufacturers are aided in obtaining the desired shade and clarity by the exacting production methods developed by U.S.I. which reduce impurities to extremely small limits. For although such factors as temperature, agitation, and drying time all play important roles in the ultimate clarity of yellow pigments, manufacturers have found through experience that the purity of the intermediates is of utmost importance.

Ethanol Aids Dispersement Of Vitamin Compositions

NEWARK, N. J. — By the use of ethanol as a solvent, an inventor here claims that fat-soluble vitamin compositions may be easily dispersed in aqueous media.

To produce this water-dispersible composition, the vitamin concentrate is mixed with a solution of ethanol and a substance selected from the group consisting of the alcohol-soluble portions of edible gums.

Starch Fractionated With Butanol, Isoamyl Alcohols

Butanol and isoamyl alcohols can be used to fractionate starch without retrogradation or hydrolytic degradation, it was reported recently. The precipitated fraction, which has a higher alkali number than the non-precipitated fraction, separates in the form of an addition compound with the butanol. The lower alcohols were ineffective, it is stated, while octyl alcohol and cyclohexanol precipitated all of the starch indiscriminately.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A slime-preventing chemical is offered in powdered form for addition to wood pulp in a beater. Five ounces of the chemical to one ton of pulp is said to be adequate. **(No. 680)**

U S I

A thermoplastic corrosion-proofing material has been developed as a substitute for rubber for lining tanks, pipes and pipe fittings. Black in color, it is applied in a similar manner to rubber. This product is claimed to resist attack by non-fuming nitric acid, chromic acid, alcohol, petroleum, gasoline, linseed oil, vegetable oil and soaps. **(No. 681)**

U S I

A cellulose paper-base medium is offered which, it is said, can be impregnated with glue and protein materials, rubber, rubber substitutes, and both natural and synthetic resins either with or without lamination. **(No. 682)**

U S I

An emulsifier has been put on the market which is described as a high dispersion product of oil in water and water in oil that is especially useful in the manufacture of paint products. **(No. 683)**

U S I

Skin protectors which the maker claims can be used on the face as well as the hands and arms have been developed to meet a wide variety of conditions. Among the irritants they are said to counter are cutting and lubricating oils, kerosene, petroleum, solvents, thinners, lacquer, paint, ink, water, fumes, ammonium nitrate, chlorine, acids, and alkalies. **(No. 684)**

U S I

A toxic preservative for cotton rope has been put on the market which is claimed to toughen and stiffen rope, give it wear-resistance and firmness, reduce unwinding of the strands, and generally increase its efficiency. **(No. 685)**

U S I

A new method of gas analysis has been developed in which catalysis is described as superseding slow combustion in standard gas analysis apparatus, thus providing a safer and more accurate method for determination of combustible components. **(No. 686)**

U S I

An adjustable automatic pipette is offered which is said to be equally adaptable to analytical procedures and to operations requiring rapid, accurate measurement of liquids. By a simple adjustment, it is claimed that any desired volume can be delivered within 0.1 ml. **(No. 687)**

U S I

An odor neutralizer for fly spray and disinfectant formulas is being produced which the maker says is an efficacious specific for Lethane 384, Lethane 384 Special, Thanite, Velsicol and Deodorant L-37 MM&R. **(No. 688)**

U S I

A viscometer is announced for testing polymer solutions and other heavy-bodied liquids. Viscosity is determined by inverting glass tubes and comparing the rise of an air bubble in the sample with the rise of a bubble in a tube containing a known standard. **(No. 689)**

U.S.I INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND STREET, NEW YORK — BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS
Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined
Ethanol (Ethyl Alcohol)
Specially Denatured—All regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
U.S.I. Denatured Alcohol Anti-freeze
*Super Pyro Anti-freeze
*Solox Proprietary Solvent
*Solox D-I De-icing Fluid

*ANSOLS
Ansol M
Ansol PR

ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Butyl Oxalate
Ethyl Oxalate

PHTHALIC ESTERS
Amyl Phthalate
Butyl Phthalate
Ethyl Phthalate

OTHER ESTERS
*Diatol
Ethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
*Registered Trade Mark

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

OTHER PRODUCTS
Acetone
Collodions
*Curbay B-G
*Curbay Binders
*Curbay X (Powder)
Ethylene
Ethylene Glycol
*Indalone
Nitrocellulose Solutions
Potash, Agricultural
Urethan
*Vacatone

Squibb's wartime tooth powder container is of paperboard but differs from most containers in this category in its plastic dispenser top.

Schiaparelli's refill flacons fill a refill purpose if desired but also furnish an opportunity to market a smaller size.

Seaforth is marketing a liquid shaving soap which the company believes to be the first of its kind. The package is the familiar Seaforth jug.

More War Packages

Squibb has repackaged both its tooth powder and talc in the now familiar cylindrical cardboard container. As usual, the Squibb package is a nicely finished, attractive job, retaining the same colors and general designs formerly used. The tooth powder package makes use of a brown plastic pour cap.

Zanol's baby talc has been repackaged in a rectangular paperboard carton with instructions to puncture several holes in the topside corner. The idea then is to use the box like a bellows and thus dispense the powder in a fine spray.

Kolynos is also using a cylindrical container of paperboard, with the familiar bright yellow finish and simple, familiar design.

Schiaparelli Refills

Schiaparelli's refill flacons of Shocking, Sleeping and Salut are so fetchingly packaged that it doesn't seem to make much difference whether it is to be used "as is" or poured into the original bottle. The refills do not actually cost less than the original bottles but they do enable the buyer to purchase a smaller unit. For instance, the bust bottle of Shocking costs $13.50 for ¾ ounces, while the refill is available in a ½ ounce bottle at $8.00. The saving for those who buy for refilling is only about 50 cents, but the general idea is probably to sell more of the refills as such. Last year Schiaparelli offered its lovely miniature dram flacons as introductory sizes which were very successful.

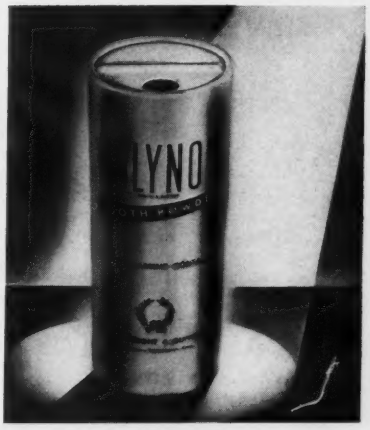
Liquid Shaving Soap

Seaforth claims to be the first to introduce a liquid shaving soap. This new type of shaving soap is packaged in the Seaforth stoneware jug, and also in the company's new stoneware cylindrical container for inclusion in the Ranger Kit designed for men in the armed forces. Seaforth's new product is said to contain no material on priority for the war effort. This means that adequate quantities will be available. The liquid shaving soap, like the other products in the line, retails for $1 and will be sold individually packaged or in combination with other items in sets.

Batter Up!

Garrie La Bran was formerly a professional baseball player. While there is a far cry between base ball and cosmetics, Mr. La Bran brought them together when he created a packaging motive for men's toiletries of base balls and bats in container form, which he

Zanol believes that its paperboard carton for baby talc can act as its own dispenser if the consumer will puncture holes in the top corner.



Kolynos' wartime container is the typical cylindrical paperboard container finished in the Kolynos yellow and characteristic design.

Sportline Group is marketing a line of men's toiletries packaged in pottery bats and balls with sets from base hits to home runs.

LUSTEROID

VIALS AND TUBES

THE ANSWER TO YOUR

MERCHANDISING PRAYERS!

● SAVE WORK ● SAVE MONEY

● SAVE WEIGHT ● SAVE MATERIAL

For merchandising with a wallop, it pays to spotlight your products in LUSTEROID vials and tubes.

This modern plastic combines smartness, color appeal, product visibility and display with protective strength and packaging economies in weight, material and work that spell real savings in money.

With LUSTEROID, protective partitioning and special packing are not required. There are no labels to affix because your label can be reproduced as an integral part of the container.

LUSTEROID vials and tubes come transparent or opaque in all colors. Cork, slip-on or screw-cap closures. Standard diameters from ¼" to 1¼" and lengths up to 6".

Write for full facts on LUSTEROID for future requirements

Lusteroid Container co., inc.

FORMERLY LUSTEROID DIVISION OF SILLCOCKS-MILLER COMPANY

OFFICE AND FACTORY
10 PARKER AVENUE, WEST
MAPLEWOOD, N. J.

MAILING ADDRESS:
SOUTH ORANGE, N. J.

SNOWFLAKE Helps Her Feel *Clean and Refreshed!*

And here's why . . . SNOWFLAKE is the base of her bath crystals! A woman knows the difference between a bath crystal base that hardens the bath water and one that *softens* the water. If the bath crystal hardens the water, she feels sticky after her bath . . . but the one that *softens* the water leaves her feeling wonderfully clean, sparkling fresh!

Snowflake is pure, crystalline sodium sesquicarbonate—which means that it is a mild cleanser in its own right. Write for complete information on the use of Snowflake Crystals for bath preparations!

Only SNOWFLAKE CRYSTALS Give All These Advantages:

COLORING AND PERFUMING—Colors add beauty to an already beautiful product. Absorbs dyes readily and quickly. Perfumes take perfectly. There is absolutely no "basic" odor to overcome.

READY SOLUBILITY—Use Snowflake. Dissolves almost instantly. Nothing to "rub" on the bottom of the tub!

MILDNESS—Snowflake is a pure crystalline product that will not harm or irritate the skin!

DETERGENCY—Snowflake cleanses the skin. Makes soap clean much better!

STABILITY—Non-caking. Does not change chemical composition or physical appearance!

FREE FLOWING—Ideal for packing by machine!

LOW COST!—A few cents per pound!

SOLVAY

Snowflake Crystals

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street — New York, N. Y.

calls the Sportline Group Men's Toiletries. The containers are pottery with closures of cork and wood. The line consists of shaving bowl, deodorant powder, talcum, after shave lotion, and cologne. The shaving bowl takes the form of a baseball with a tiny baseball as the handle, and holds either a brushless shave cream or a lather cream soap. The talc and powder deodorant come in containers which are replicas of an official baseball. The after shave men's cologne and talcum come in the baseball bat bottle. The sets are put up in groups called base hit, double play, three base hit, World's Series Home Run.

What Men Want

Many are the surveys which have been made of what women want in the way of cosmetics, what they consider essential and what they would give up. It remained for D. E. Robinson, of Pedlar & Ryan, writing in "Advertising & Selling," to find out what men use and what they would keep in this respect. He reports that comb, tooth brush, dentifrice, razor blades and shaving soap or cream are most used and in that order. Hair preparations were tenth; talcum powder, eleventh; after shave lotion, twelfth; shampoo, fifteenth; deodorant, seventeeth. Of the products in use, razor blades, tooth brush, comb, shaving cream or soap, and electric shaver were considered most indispensable by those who use them. In this measure of indispensability, dentifrice was sixth; deodorant, eleventh; hair preparation, fifteenth; talcum powder, eighteenth; after shave, nineteenth; shampoo, twenty-first

"A Year of War," and Cosmetics

What effect has a year of war had on women's buying habits?

How do women rate the morale value of personal appearance in war time?

Answers to these questions are analyzed in a bulletin just released by the Woman's Home Companion, based on data obtained from readers of the magazine.

Queried as to what toilet preparations they considered vital to personal appearance in wartime, 67% of those replying put face creams at the head of the list. Face powder ranked second with a total of 52% and is more important to women over 25 than to younger ones. Lipstick was mentioned by 56% in each of the two younger age groups (under 25, and 25-34), but the attitude of older women brings the general average down to 44% for this beauty aid.

The concern of women for the care of their war-working hands is indicated by the large percentage who mentioned hand lotions (39%).

The survey indicates that war-caused changes of ingredients and packaging in toilet preparations are not yet very conspicuous to consumers since less than one-third of the women surveyed have noted any (29%). Of the changes noted 75% have to do with packaging, only 15% with the product itself.

Such changes as have been apparent, are not of sufficient consequence to affect buying to any noticeable extent: only 7% of the women are buying less than formerly because of them, 89% are buying the same quantities, and 4% are buying more.

Cream Colognes

At this point the cream colognes seem to be the answer to the alcohol shortage. The way new ones keep cropping up almost every day, they promise to be second only to leg makeups this season. Among some of the new ones is Lentheric's Creme Bouquet, a "daytime fragrance," intended for application to the body only. Rubbed over the body, it absorbs readily, softening and soothing the skin, and leaving a lingering trace of fragrance. Helena Rubinstein's popular Apple Blossom now comes in a cream cologne, a fine creamy liquid that acts both as a cologne and a refreshing body-rub. Migou, distributed by Maurce Levy, is another example of a non-alcoholic body perfuming lotion. A light, creamy liquid, Migou comes in four pale and pastel shades, in a choice of fragrances. Wrisley's new Hobnail Pastel Cologne seems to differ somewhat from the average run of the cream type of cologne in that it is more liquid and less creamy. The base is non-alcoholic. It disappears quickly and completely, leaving the skin surfaces soft and smooth and a delightful perfume is left to scent the skin. According to Wrisley, the new cologne is as refreshing and stimulating as ever. It acts as a skin refresher and perfumer with the added benefit of the new non-alcoholic base which is not drying to the skin.

Luxor, sort of turns the tables by simply offering its "Body Lotion" for the main purpose of lubricating dry, parched skin, but with the added feature of scenting the body. The added perfume feature gives the user a chance to keep herself delicately perfumed with Body Lotion and thus conserve on her other perfume-type products.

That Bedrock Specter

Last month when we were discussing the bedrock economy plan which might be forced upon the country by several years of war, we took pains to emphasize that the report was not announced as a program for reaching any immediate goal, but simply the ideas of the Office of Civilian Supply concerning minimum civilian requirements should the war drag on to the point where further reductions in civilian goods becomes necessary.

During the month, however, there has been at least one development which has brought this plan into the immediate present, instead of relegating it to a rather vague future which might never happen. That event was the fact that the fur industry considered its place in the bedrock of sufficient importance to go to bat on it immediately. It made representations to Joseph L. Weiner, director of the OCS, had conferences with him, and, according to a spokesman for the industry was promised reconsideration. The industry's requests for consideration covered the following major points:

Substitution of a fair production year for the sub-normal 1939 base year used in the "bedrock" statistics. Substitution of valid 1939 production figures (estimated at $213,038,000) for the $129,000,000 at manufacturers' prices given the WPB by the Department of Commerce. Finally, granting to furs an allotment of 84 per cent of the base year as given coats "other than furs" in Table 14 of the plan.

All parties to the discussion again joined in emphasizing that this plan does not mean immediate curtailment of the industries affected by it. The fur boys, it seems, are just anxious to get the records straight. The cosmetic boys for the most part appear so overcome by the honeyed words with which their business was described that they haven't even looked at the record.

Latherless Shaving Creams

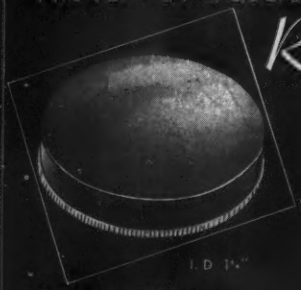
Speaking of the search for substitutes as we were last month, we ran into some more dope on the problem of the shaving cream manufacturer. It seems that shaving creams do not lather as freely as they used to and the reason apparently is that the shaving cream manufacturers cannot use alcohol any more and it seems that the alcohol is responsible for the free lathering action. Many of the formulas also call for glycerine and you know how that is. Consequently the search is on for substitutes in that field too where all along we, for one, thought it was easy sailing.

HARRY BRODER

all Plastic Containers

ADOPTED BY LEADING STYLE HOUSES
PROVEN BY PUBLIC ACCEPTANCE

Rouge Box



Mill-edge
Base
Wedge Lock
Closure

De Luxe
SWIVEL
Lipstick
Container

"FASHIONED LIKE A JEWEL"

JUNIOR Push-Up Lipstick Container

SENIOR Push-Up Lipstick Container

Both JUNIOR and SENIOR feature the new double slot construction, which eliminates any possibility of jamming and provides free action.

EXCLUSIVE DESIGNS TO YOUR ORDER IN ALL COLORS OR COMBINATIONS. DELIVERY 4 to 6 WEEKS

WRITE, PHONE or WIRE TODAY!

HARRY BRODER

5 EAST 47th STREET • NEW YORK CITY
PLaza 8-0520

HOW TO KEEP BRANDS IN STEP WITH MARKETS ON THE MOVE

That defense job in another town is taking thousands of workers' families from home streets and familiar stores in the great wartime population shift. Sure, you sell your product in their new town—*but where?* Can those newcomers find *your* brand that greeted them like an old friend from the shelves of their home town stores?

Meyercord Decal Window Signs are the answer! They beam an invitation to shoppers every hour of every day with the compelling power of a beckoning hand. Durable, full-color, lustrous, washable, attractive, and utilizing no critical material. Decals are night-and-day, all-weather, out-of-the-backroom "point of sale" advertising that pack more publicity value per square inch for a longer period of time at lower cost.

Spot Signs or Top-of-Window Valances, Back-Bar or Showcase Signs — all at prices that make Meyercord Decals an inexpensive point-of-sale dealer help and shopping reminder. Let Meyercord Decals point the way to your product. Free designing service. Samples on request. Write Department 1274.

Reverse side of sign illustrated above showing two-sided feature of spot signs.

50th ANNIVERSARY 1893 1943

DECALS SAVE METAL

FAST • COLORFUL • DURABLE IDENTIFICATION

MEYERCORD DECALS

THE MEYERCORD CO., 5323 W. Lake St., Chicago, Ill.

OLD SOUTH PERFUMERS

Cotton Blossom is a new complete and lovely sequence offered by Old South Perfumers. As distinctly Old South in package and perfume as the blossoms which inspired them, these charming additions to the Old South line include Cotton Blossom cologne in two presentations, perfume in two sizes, soap, talc, dusting powder, and Old South Bubble Bath Crystals.

OLD SOUTH PERFUMERS

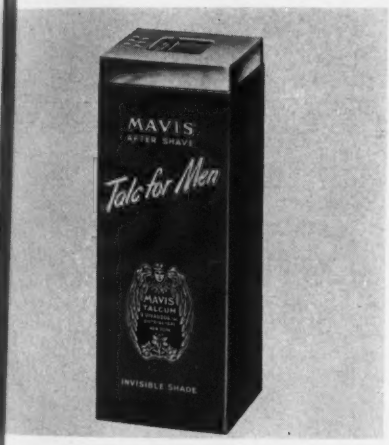
MODERN SUPPLY CO.

The Modern Supply Co. is featuring its Ma-Jor-Et lemon waveset, flakeless waveset, and polish remover. Ma-Jor-Et lemon waveset comes in a 6½ ounce beaded top, pour-out bottle suitable for inserting waveset comb. The flakeless waveset comes in the same type bottle. Ma-Jor-Et polish remover is in a sunburst bottle with slow pour-out dispenser, which is economical and retards evaporation. This remover is perfumed.

MODERN SUPPLY CO.

V. VIVAUDOU, INC.

A new member of the Mavis family is Mavis Talc for Men in an invisible shade. It is packaged in a streamlined, metal-replacement, bright red, paper board container. Djer-Kiss talcum and Mavis talcum also appear in a new dress of sturdy paper board.



V. VIVAUDOU, INC.

LENTHERIC

Lentheric presents Crème Bouquet, a new type of "daytime fragrance," designed to meet wartime emergencies. As with Bouquet Lentheric, the Lentheric fragrances are retained in a lighter, more delicate form, yet true to the character and individuality of each perfume itself. Crème Bouquet is intended for application to the body only. Rubbed over the body, it absorbs readily, softening and soothing the skin, and leaving a lingering trace of fragrance.

LENTHERIC

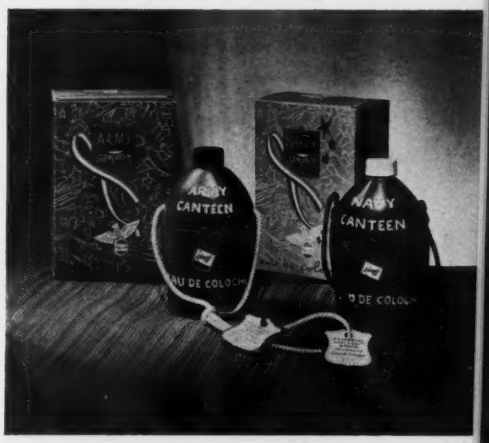
VANGUARD SALES CORP.

A new greaseless hand protective cream is being introduced by the Vanguard Sales Corp., a subsidiary of Revlon Products Corp. According to Vanguard, the outstanding feature of this new hand cream is the smooth, easy way it goes on, making an invisible "glove" which protects the hands against the ravages of industrial dermatitis and keeps pores free of unsightly grime and grease.

VANGUARD SALES CORP.

KAROFF

Karoff is featuring a refreshing cologne for both men and women who are doing things these days. In dashing khaki and trim navy, there is a canteen for the major branches of the service, soldiers, sailors, Waacs and Waves. The stone-like colorful jug in blue and khaki has a cord for tub or shower.



KAROFF

"I've got to get this back to Dow"

YES! IT'S URGENT—HANDLE DRUMS CAREFULLY—RETURN PROMPTLY

We know you are fully aware of the urgent need for drums and other chemical containers. But again we call to your attention these important points:

- Drums now in circulation are *all there are! Make them last!*
- Empty or half-filled drums standing in warehouses, yards or shipping *platforms serve only the enemy.*
- Handle drums carefully—*don't drop or mishandle.*
- Keep drums under cover—*store in dry places.*
- Replace plugs carefully—*don't strip threads.*
- Keep drums clean—don't use for other *materials.*
- *So Send Them Back to Dow Today!*

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

DOW

CHEMICALS INDISPENSAB
TO INDUSTRY AND VICTO

NEWS

Companies

Anacin Advances Lowary

C. H. Lowary, manager of the Knoxville plant of the Anacin Manufacturing Co., has been named a vice-president of the company, it has been announced by Alvin G. Brush, chairman of American Home Products Corp. of which the Anacin Co. is a subsidiary.

Mr. Lowary's promotion came just as the employees of the Anacin plant won the Army-Navy "E" Award. He was graduated from Ohio State University's College of Pharmacy after a four-year course in pharmacy and chemistry. After graduation he worked in the bureau of chemistry of the U. S.

C. H. LOWARY

Department of Agriculture station in New York as a junior chemist.

He was with the William S. Merrell Co., now Vick Chemical Co., for two years as director of the analytical laboratory, and later became assistant production manager. From 1922 to 1926, he was in charge of the analytical laboratory of Frederick Stearns & Co. For the following four years, he was assistant production manager.

Mr. Lowary joined American Home Products Corp. in 1930 and served seven years as chief chemist in charge of a control and research laboratory. He served as assistant manager in charge of the manufacturing departments and plant manager from 1937 to 1939, when he became manager of the drug division of American Home Products Corp.

In March 1942 he went to Knoxville as manager of the newly-opened Anacin Manufacturing Co. plant.

Dr. Piccoli Joins Squibb

Dr. Leonard J. Piccoli joined E. R. Squibb & Sons, International April 15 as manager of professional service for foreign markets. The International distributes Squibb products in foreign countries, principally Central and South America, and Dr. Piccoli will be in charge of promotion to the professions. Before joining Squibb he was professor of pharmacology at Fordham University's College of Pharmacy.

Stanley Clark Joins Bayer

Stanley I. Clark, for the past four years drug merchandising counsel for *This Week*, has resigned to become assistant to Harvey Manss, executive vice-president in charge of Bayer Co. Division of Sterling Drug, Inc.

Mr. Clark was formerly sales manager of Lehn & Fink and general manager of Admiracion Laboratories.

Hellige Taken Over by U. S.

The management of Hellige, Inc., Long Island City, manufacturer of scientific laboratory supplies, has been taken over by Leo T. Crowley, Alien Property Custodian. Dr. Paul A. E. Hellige, a German citizen and owner of the company, was taken into custody by the Federal Bureau of Investigation, February 16.

It is believed that under the management of the Alien Property Custodian assisted by Army technicians the production of the company, which is engaged in making water testers for the Army, will be substantially increased.

Berg Named Winthrop V. P.

William H. Berg has been made vice-president of Winthrop Chemical Co., Inc., it has been announced by Dr. Theodore G. Klumpp, president. Mr. Berg who was a pioneer in the marketing of vitamins is a director of special markets and of the industrial division of Winthrop Chemical Co. He is a graduate of the Sheffield Scientific School, Yale University, and was associated with White Laboratories from 1924 to 1938. When he resigned he was president and general manager. In 1939 he joined Alba Pharmaceutical Co. as vice-president and transferred to Winthrop Chemical Co. when the company absorbed Alba early this year.

Johnson Returns to Duche

James L. Johnson, manager of the Gelatin Division of T. M. Duche & Sons, New York has returned to his office following an extended leave of absence during which he underwent an operation for a thyroid disturbance.

Burroughs, Wellcome Gets "E"

The Army-Navy "E" was awarded to the employees of Burroughs, Wellcome & Co., at the Wellcome Chemical Works, Tuckahoe, N. Y., on March 10.

Hyland Lab. Taken by U. S.

Hyland Laboratory, Los Angeles, has been taken over by the War Department for the processing of plasma.

Bristol-Myers Buys Cheplin

Bristol-Myers Co. has announced the purchase of Cheplin Biological Laboratories, Syracuse, N. Y.

Cheplin Biological Laboratories were established in 1923 by Dr. H. A. Cheplin. He was graduated from Syracuse University in 1916 and then did graduate work at Yale where he was honored by the Seessel Fellowship in Bacteriology and received his Ph.D. in 1921. His graduate work was interrupted by service in World War I.

In 1921 Dr. Cheplin became associate professor of bacteriology at Syracuse University. Some years later he joined the staff of Mulford Laboratories where he took over important work in connection with production of acidolphilus preparations.

The work of Cheplin Biological Laboratories will be continued with no change of management or executive staff and Dr. Cheplin will continue as active head.

Murphey—Bourjois P.A.

Roy E. Murphey, formerly assistant sales manager of Bourjois, Inc., New York, has been appointed purchasing agent of the same company to fill the position formerly held by Harris Whitaker, who resigned March 30. Preceding his association with Bourjois, Mr. Murphey was associated with the DeVilbiss Co., Toledo, and the T. J. Holmes Co., Chartley, Mass.

Libby-Owens-Ford Completes Plaskon Purchase

At the annual meeting shareholders were asked by John D. Biggers, president of Libbey-Owens-Ford Glass Co., to approve the acquisition of the remaining outstanding stock of Plaskon Co., Inc. In 1940 the company purchased 70 per cent of the Plaskon stock for $2,269,-292.30 from the Toledo Scale Co., which organized Plaskon in 1931 as a subsidiary.

Amer. Home Buying G. Washington

Alvin G. Brush, chairman of the board of American Home Products Corp., has announced that the corporation is acquiring the G. Washington Coffee Refining Co.

The G. Washington Company, established in 1910, manufactures soluble coffee and instant broth, fortified with vitamins. The plant is in Morris Plains, N. J.

Consummation of the transaction will expand American Home Products' activities in the food field, in which it already has an important stake through its subsidiary, Harold H. Clapp, Inc., Rochester, manufacturer of baby foods.

Dr. Hopkins—Continental Director

Dr. Ernest Martin Hopkins, president of Dartmouth College, has been elected a director of Continental Can Co., Inc., filling the vacancy caused by the death of its late president, J. Frederick Hartlieb.

Dr. Hopkins was a pioneer in industrial personnel work, having resigned as secretary of Dartmouth College in 1910 to do this work for Western Electric Co. in Chicago, Wm. Filene's Sons in Boston, Curtis Publishing Co. in Philadelphia, and the New England Telephone & Telegraph Co. in Boston.

Dart Heads United Drug

Justin W. Dart has been elected president of United Drug Inc., succeeding Joseph A. Galvin, who becomes chairman of the board. Mr. Dart joined United Drug last year as vice-president and a director and president of Liggett Drug Co., Inc., the chief retailing subsidiary. He will continue as president of the Liggett Co.

Mr. Galvin, who has been president of United Drug, Inc., since 1941, will continue as president of United Drug Co., the chief manufacturing subsidiary. Louis K. Liggett, founder of the United Drug organization, continues as chairman of United Drug Co.

McCormack with Dorothy Gray

John J. McCormack has joined the Dorothy Gray organization. He was formerly sales manager of Delettrez, Inc. Mr. McCormack has had wide experience over a period of many years during which he was eastern district manager for Elizabeth Arden and Helena Rubinstein.

Van Dyk Catalog

Van Dyk & Co. Inc., Jersey City, N. J. has brought out a new catalogue of raw material for perfumery, cosmetics and soaps. A foreword assures buyers that, although the company is devoting the major part of its manufacturing facilities to war work, no effort will be spared to serve them to the limit of its ability. Copies of the catalogue are available upon request.

Vad Representatives

Robert Downes now represents the Vad Corp., New York, on the Pacific Coast, with headquarters in Los Angeles. George Tucker covers the southwest, with headquarters in Dallas, Texas. Murray Werker represents the firm in the middle west.

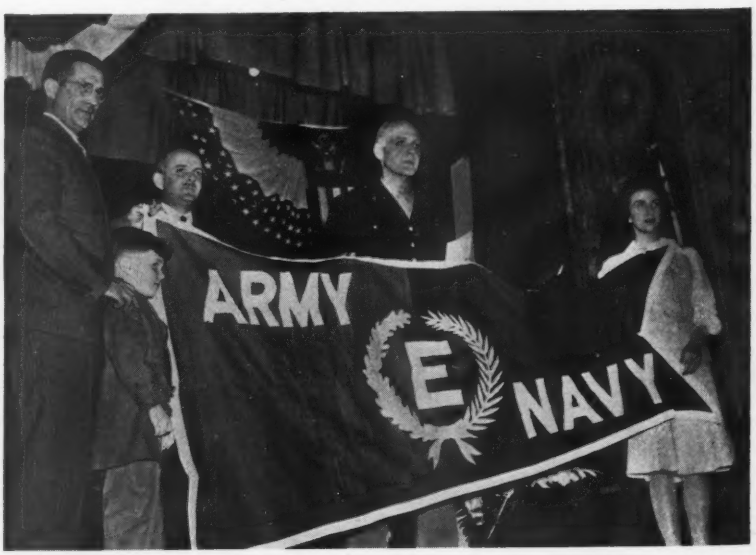
Bond with Cosmata

Harvey M. Bond has been appointed sales and advertising manager for Cosmata, Inc., Long Island City, N. Y.

Amer. Home in New York

American Home Products Corp. has leased a large area in the 43-story building at 22 East 40 St., New York, it has been announced by Alvin C. Brush, the corporation's chairman.

The additional office space was made necessary by the growth of the corporation's business and the acquisition of important new companies in the past year. The new quarters will be occupied May 1 by American Home Products Corp. and nine of its subsidiaries—Anacin Co., BiSoDol Co., Harold H. Clapp, Inc., Emdee Laboratories, International Vitamin Corp., Kolynos Co., Wyeth Chemical Co., A. S. Boyle Co. and Midway Chemical Co. Harold H. Clapp, Inc. now has offices in the building and will secure additional quarters through the lease.



Presentation of the Army-Navy "E" to the employees of the Anacin Manufacturing Co., Knoxville, March 24. Left to right: Carl H. Lowary, vice-president and plant manager; his son, Fritzie; Lt. Commander Robert C. Taylor, U. S. Navy; Brig. Gen. Hugh Jackson Morgan, chief consultant in medicine, U. S. Army; Mrs. Ada Ruth Goforth, elected employee representative.

. . . with them marches *measured purity*

Over strange roads . . . and on familiar streets . . . they move. Men in the armed services. Civilians in home defense.

With them goes *advance* protection.

It comes from the pharmaceutical laboratories of the nation. Hundreds of products—from foot powders that relieve aching feet to preparations that fight infections—make these marching men and women healthier, stronger, more fit for today's emergencies.

And behind these products is still another factor.

It is the fine chemical.

Often, the effectiveness of a product is assured by the purity of the fine chemicals which are its component parts.

At Baker . . . it's *measured purity* in fine chemicals . . . purity to predetermined, exacting standards.

Leading pharmaceutical manufacturers appreciate Baker's fundamental principle—"there shall be no compromise with quality."

If you buy fine chemicals or have a fine chemicals problem that requires exacting, measured purity, write us. Perhaps we can help you, too!

J. T. Baker Chemical Co., ***Executive Offices and Plant:*** **Phillipsburg, N. J.**
Branch Offices: **New York, Philadelphia and Chicago.**

Baker's

Baker's fine chemicals

CALIFORNIA SENDS YOU

The World's Finest Orange Oil

OVER THE YEARS you save money and get better flavor that lasts longer when you use . . . EXCHANGE OIL OF ORANGE.

Ask our Jobbers for Samples

DODGE & OLCOTT COMPANY
180 Varick Street, New York, N. Y.

FRITZSCHE BROTHERS, INC.
76 Ninth Avenue, New York, N. Y.

Distributors for: **CALIFORNIA FRUIT GROWERS EXCHANGE PRODUCTS DEPT., ONTARIO, CALIF.**

Producing Plant:
Exchange Orange Products Co., Ontario, California

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Exchange
OIL OF
ORANGE
U. S. P.

Isobornyl Acetate

(Synthetic Pine Needle)

Du Pont Isobornyl Acetate is a true pine needle self odor as well as a valuable piquant ester for use in compounds. It is the basic ingredient of Pine Needle Oil Siberian. By the addition of other synthetic aromatics to Isobornyl Acetate, an adequate and economical replacement for Pine Needle Oil Siberian can be made. Along with Isoborneol and Terpinyl Propionate it will find its place in the making of artificial oils of rosemary, thyme and lavender.

Discoveries made in the development of Du Pont products often contribute information that leads our Aromatics chemists into new fields of research.

For example, Du Pont's development of Synthetic Camphor led us to the manufacture of Isobornyl Acetate. Other products have been developed similarly.

Synthetic aromatics are a product of chemistry. And Du Pont Synthetic Aromatics reflect the technical skill and vast resources of all the Du Pont Laboratories. E. I. du Pont de Nemours & Co. (Inc.), Aromatics Section, 40 Worth Street, New York, N. Y.

DU PONT

REG. U. S. PAT. OFF.

Aromatics

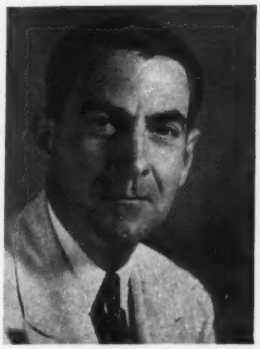
For more than 144 years these initials have symbolized the best in Aromatic Chemicals, Essential Oils and Perfume Compounds. Today, more than ever, it pays to "Call D & O"!

DODGE & OLCOTT COMPANY, 180 VARICK ST., NEW YORK. N.Y. · Boston · Chicago · Philadelphia · St. Louis · Los Angeles · Plant & Labs., Bayonne, N.J.

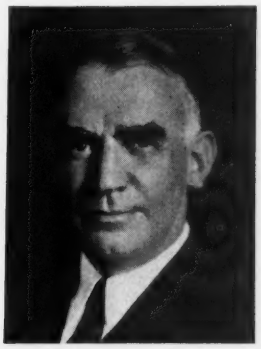
D.O

Queeny—Monsanto Board Chairman

Charles Belknap, chairman of the executive committee and executive vice-president of Monsanto Chemical Co., has been elected president. Edgar Monsanto Queeny, for the last fifteen years president, was elected chairman of the board, a position vacant since the death of his father, John Francis Queeny, founder and first president of the company, in 1933. No executive vice-president was elected to succeed Mr. Belknap. In addition to his duties as president, he will continue as chairman of the executive committee.



EDGAR MONSANTO QUEENY



CHARLES BELKNAP

Mr. Belknap was born September 6, 1880 in Oakland, Md. He attended St. John's Academy and St. Paul's school before becoming a midshipman at the United States Naval Academy. He was graduated from the academy in 1903 and commissioned an ensign, rising to the rank of commander before his resignation in 1919. During World War I he was director of the Naval Overseas Transportation Service, reporting to the Chief of Naval Operations. As naval transportation chief, Mr. Belknap was in command of 550 troop carriers, cargo carriers and convoy vessels that shuttled back and forth across the Atlantic, carrying all the men and material of the American expeditionary forces of 1917 and 1918. For his accomplishment, he was awarded the Navy's distinguished service medal and the Army's distinguished service medal.

Mr. Queeny, who assumed the presidency of Monsanto when he was thirty years old, is a native of St. Louis. He was born in September 1897 and attended the St. Louis public schools, Pawling School, Pawling, N. Y., and Cornell University.

He enlisted in the United States Navy as a seaman immediately upon this country's entrance into World War I, and in July, 1917 he was sent to the Naval Officers Training school at Newport, R. I., where he was commissioned an ensign the following December. After eight months overseas service aboard a destroyer tender operating out of Plymouth, he had acquired an ability as an instructor in navigation and gunnery, and he was ordered to the Mare Island Navy Yard, San Francisco, for duty on a destroyer then being built. Until its completion he was an instructor at the Mare Island Officers' Training school.

After his discharge from the Navy as a lieutenant (j. g.) he went to work for Monsanto, becoming its first advertising manager. In the early 1920's he entered the export sales department and then was transferred to the general sales department. In 1924, he was made sales manager and shortly thereafter was elected a vice-president. He has been president of the company for the past fifteen years.

Chandler Medal to Dr. Dow

The Charles Frederick Chandler Medal, awarded annually by Columbia University for outstanding achievement in the field of chemistry, has been given this year to Dr. Willard H. Dow, president of the Dow Chemical Co., Midland, Mich.

Following his graduation from the University of Michigan, Dr. Dow became associated with the company as a chemical engineer in 1919. The announcement of the award described as "spectacular" the achievements of his company in producing bromine and magnesium from sea water and of synthetic plastics and rubber.

The medal will be presented to Dr. Dow May 20 at Havemeyer Hall, Columbia University, when he will deliver the Chandler lecture.

Abbott "E" Renewed

Admiral C. O. Bloch, chairman of the Navy Board for Production Awards, has notified S. DeWitt Clough, president of Abbott Laboratories, that the company has been granted a renewal of its Army-Navy "E" Award for an additional period of six months.

Buschman Heads National Can

Saul L. Buschman has been elected president of National Can Corp., succeeding L. F. Gieg who has resigned. Early in 1941, Mr. Buschman gave up the vice-presidency of National Can to become president of the Canonsburg Steel and Iron Works but he remained a member of National Can's directorate.

Award to Mulholland of Calco

H. A. Mulholland, assistant credit manager at Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J., won a gold medal certificate award recently in a nation-wide business letter contest conducted by the Dartnell Corp. of Chicago. Unearned discount was the subject of Mr. Mulholland's prize-winning letter. It was one of twenty selected from several thousand entries submitted from all over the United States.

Simone of Parento in Army

Anthony J. Simone, for the past twelve years in the production department of Compagnie Parento, Inc., Croton-on-Hudson, N. Y., has entered the Army. At a farewell party he was presented with an army wrist watch by the company and several gifts by the employees.

Brodbeck Heads Ciba

J. J. Brodbeck, formerly executive vice-president and general manager of Ciba Pharmaceutical Products Co., has been elected president. Lee J. Perrin of New York has been elected chairman of the board and Norman F. Storm, vice-president of the company in charge of production. The election of Vincent A. Burgher as vice-president in charge of sales was confirmed and Dr. E. Oppenheimer was elected vice-president in charge of medical research, his election to become effective in three months.

Mr. Brodbeck is a son of Dr. James Brodbeck, president of the Society of Chemical Industry, Basle, Switzerland. He came to this country with his wife in 1940 and immediately initiated steps to become an American citizen.

EYES THAT GUARD YOUR REPUTATION

The human element enters even into the production of fine chemicals—one of the most closely controlled operations in all industry.

On the accuracy with which this analytical chemist reads the color of his control sample, for example, may depend the purity of the next shipment of pharmaceuticals that goes into your finished product—and the continued high reputation of your products.

That's why Monsanto control laboratories are staffed by highly skilled chemists. And that's why you can depend on *controlled* quality in *every* shipment of *every* Monsanto pharmaceutical that reaches your plant.

MONSANTO CHEMICAL COMPANY,
Organic Chemicals Division, St. Louis, Mo.

GLYCEROPHOSPHATES of uniform high quality

- Glycerophosphate, Calcium, N. F.
- Glycerophosphate, Iron, N. F.
- Glycerophosphate, Magnesium
- Glycerophosphate, Manganese, N. F.
- Glycerophosphate, Potassium (Solution)
- Glycerophosphate, Sodium, N. F.
- Glycerophosphate, Sodium (Solution)
- Glycerophosphoric Acid (Solution)

MONSANTO CHEMICALS

Monsanto pharmaceuticals of *controlled* quality:

Acetanilid U. S. P.
Acetophenetidin U. S. P.
Acetyl Salicylic Acid (Aspirin)
Benzoic Acid U. S. P.
Caffeine U. S. P.
Dicalcium Phosphate
Chloral Hydrate U. S. P.
Chloramine-T U. S. P.
Glycerophosphates
Magnesium Phosphates
Methyl Salicylate U. S. P.
Phenol U. S. P.
Phenolphthalein U. S. P.
Phosphoric Acid
Potassium Ammonium Phosphate
Potassium Phosphate
Saccharin U. S. P.
Salicylates
Salol U. S. P.
Sodium Benzoate U. S. P.
Sulfanilamide U. S. P.

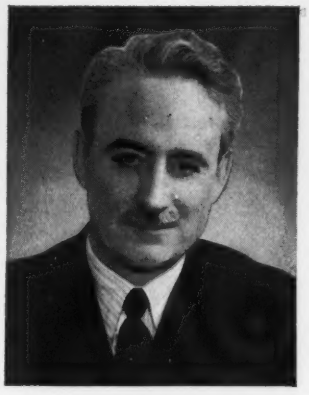
SERVING INDUSTRY . . . WHICH SERVES MANKIND

Wheelco Adds to Staff

Three additions to the sales and service staff of Wheelco Instruments Co., Chicago, have been announced by R. A. Schoenfeld, vice-president and sales manager. Hugh Acock, formerly in the Tulsa territory, has been named Texas district manager with headquarters in Houston. C. H. Garrison has been named Kansas City representative, with a territory including western counties of Missouri. Russell George has been added to the sales and service department of the company's combustion safeguard division, with headquarters in Chicago.

Brobst Heads Gelatin Products of Canada

Following a year of service as director of the English plant of Gelatin Products Limited, Slough, Bucks, and two and a half years as sales manager of Gelatin Products Limited, Windsor, Ontario, M. Frank Brobst has been made managing director of the latter firm. At present the Canadian plant is shipping millions of vitamin capsules monthly to Great



M. FRANK BROBST

Britain for general civilian use, as well as other millions to the armed forces in all theatres of war.

The company estimates that in 1942 it conserved Canada's supply of pure block tin by 3,000,000 tubes, by virtue of its new rotary die process of enclosing a wide variety of medicines, ointments, prophylactics and other products in gelatin.

National Oil Cleanser

The Acidolate Division of National Oil Products Co., Harrison, N. J., has issued the first of a series of three booklets dealing with "Acidolate"—a latherless skin cleanser. The company is now ready to launch a new merchandising program for the product which is to be sold through ethical channels. This is the first of Nopco's packaged products to be distributed in the ethical drug field.

The three booklets, of which this is the first, will be mailed to general practitioners, dermatologists and industrial physicians in war industry areas.

Revlon Markets "Hand-Saver"

Vanguard Sales Corp. has been organized as a subsidiary of Revlon Products Corp. to market "Hand-Saver," a new type of greaseless skin protective cream which will be introduced nationally. J. J. Casey is general sales manager of Vanguard Sales Corp.

AleXitE Skin Protector

AleXitE Engineering Co., Alexander Building, Colorado Springs, is the producer of AleXitE Skin Protector, a cream designed to protect exposed skin from industrial irritants.

Orbis Moves in Chicago

Orbis Products Corp., New York, has announced that its Chicago office is now located at 660 North Dearborn St. The phone number remains unchanged.

Standard Synthetics in S. A.

In order to keep its name before its South American customers, Standard Synthetics, Inc., New York, is sending them a series of twelve attractively colored blotters.

Thomas Leeming Moves

Thomas Leeming & Co., Inc., distributor of Baume Bengue and Pacquin, Inc., manufacturer of Pacquin's hand cream, moved March 27 to new quarters at 155 East 44 St., New York.

St. John Directs Industrial Minerals

John Saint John of Saint John's, Newfoundland, has been appointed the new general manager of Industrial Minerals Co. of Newfoundland, Ltd., producers of alumina talc.

People

Conway of Fritzsche Decorated

Robert E. Conway, employed in the Chicago office of Fritzsche Brothers, Inc., until July 15, 1941 when he was drafted, recently returned from active participation in some of the heaviest fighting of the South Pacific. Sergeant Conway was with the 19th Bombardment Group, the most decorated outfit in the U. S. Army and the unit to which Capt. Colin Kelly was attached when his bomber sank the Japanese battleship "Haruna." Bob was decorated three times and in addition wears three stars for having participated in the battles of Java, New Guinea and Port Moresby. He is at present stationed in Texas training recruits for the Air Corps.

Noyes Heads NAM Sub-Committee

The National Association of Manufacturers has announced the formation of the National Industrial Information Committee. Nicholas H. Noyes, vice-president, Eli Lilly & Co., Indianapolis, is a member of the committee and chairman of the section on drugs and cosmetics.

Industrial Chemical Fetes Dimick

Corporal Arthur (Bud) Dimick was given a reception at the office of Industrial Chemical Sales Division of the West Virginia Pulp and Paper Co., while on furlough from the United States Naval Hospital at Oakland, Calif.

Prior to his enlistment in the Marine Corps. in December 1941, Corporal Dimick was attached to the Cleveland office, handling the sale of precipitated calcium to the drug, cosmetic and allied industries.

"For conspicuous gallantry and intrepidity in action against the enemy in the British Solomon Islands on November 3, 1942," Corporal Dimick was given the Silver Star Citation. The citation, signed by Admiral W. F. Halsey, tells that, "During the attack on hostile positions at Guadalcanal when the advance of the company to which he was

CPL. ARTHUR (BUD) DIMICK

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Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

attached was threatened by close range fire from the enemy 37 mm gun, Corporal Dimick, with complete disregard for his own safety, in the company of two other marines, rushed forward in the face of heavy enemy fire, captured the gun by destroying the hostile gun crew, and placed that weapon out of action, thereby permitting the remainder of his company to carry its objective without undue losses."

Bud Dimick is a nephew of Joseph M. Wafer, sales manager of Industrial Chemical Sales Division, West Virginia Pulp and Paper Co.

Austin Commissioned Lieutenant U.S.N.R.

Edward B. Austin has been commissioned a lieutenant in the U.S.N.R. and left March 18 for Miami to report for active duty. Lieut. Austin before joining the Navy, was vice-president and director of Pacquin, Inc., and Thos. Leeming & Co. Inc., New York. He attended Hill School, and is a graduate of Yale University and Columbia Law School. He is the son of the late Dwight E. Austin, former president of Thos. Leeming & Co. Inc.

Salomon Now Lieutenant

Richard B. Salomon, now on leave of absence as president of Charles of the Ritz, has been commissioned as second lieutenant. He enlisted last September and, after spending three months in training at Camp Crowder, Mo., was transferred for three months more to Fort Monmouth, N. J. He was graduated from the Officer Candidate School there on March 23 and received his commission as a second lieutenant in the Signal Corps. It was while he was attending O.C.S. that his wife gave birth to their first child, a son, Richard Edward, and it is reported that although he may have expected to give the orders when he got home on this his first leave since his enlistment, he found himself still carrying them out and he looked mighty proud doing it.

Dwight Early, Jr., in Service

Dwight H. Early, Jr., has been called into the service and is stationed at Fort Sheridan, Ill. He is the son of Dwight H. Early, Chicago representative of The Drug and Cosmetic Industry and "Beauty Fashion." Virginia Jackson, of the Early organization has also entered the service, joining the WAAC and reporting for duty at Daytona Beach, Fla.

Alberta Kramer

Mr. and Mrs. Robert A. Kramer announce the birth of a baby girl, Alberta, on March 16. This is their fourth child —three girls and one boy. Mr. Kramer is sales manager of Evans Chemetics, Inc., New York.

Nancy Burton Brauneiss

Mr. and Mrs. Walter M. Brauneiss have announced the birth of a daughter, Nancy Burton, March 22. Mr. Brauneiss is advertising representative for The Drug and Cosmetic Industry and "Beauty Fashion."

Associations

A.D.M.A. Convention Program

The annual convention of the American Drug Manufacturers Association will be held at the Palmer House, Chicago, May 2 to 4. Section meetings will be held Sunday, May 2, with the first general session May 3.

D. M. Copley, chairman of the Scientific Section, has announced that the guest speaker will be Dr. E. L. Sevringhaus of the State of Wisconsin General Hospital, the University of Wisconsin. He will talk on "Commercial Production of Hormone and Vitamin Extracts." Dr. Frederic Fenger, chairman of the subcommittee on Glandular Products and Ferments will report on the subcommittee's work on a new Reference Standard Rennin to replace the old, the supply of which is practically exhausted.

Dr. A. D. Emmett, chairman of the Subcommittee on Vitamin Assays, will report on its study of assay methods for various members of the Vitamin B Complex. Dr. C. W. Geiter, chairman of the Subcommittee on Pharmacological Assays, will report upon the general investigation of Pyrogens initiated by Professor Cook and Dr. Calvery.

The report of J. B. Fullerton, chairman of the Subcommittee on Inorganic Chemicals and Medicinals, will deal with the assay method for tablets of bismuth salts.

The Subcommittee on Organic Chemicals and Medicinals worked on a three-point program during the year—(1) an evaluation of the melting point of Antipyrine; (2) the boiling point range of Methyl Salicylate; (3) a consideration of problems which have been proposed but which have not as yet been formulated for collaborative study. L. A. Watt, chairman of the Subcommittee, will report upon these points.

JOHN G. SEARLE

Dr. R. A. Cain, chairman of the Subcommittee on Botanical Drugs, will report on further studies of the resinous drugs, Japal, Scammony and Mandrake and on a study of the ash content of Extract of Licorice Root.

Dr. F. O. Taylor, chairman of the Contact Committee will also give his report.

The meeting of the Biological Section will also be held May 2. W. G. Malcolm is chairman of the Section and Dr. M. V. Veldee, Chief, Division of Biologics Control, National Institute of Health, will address the Section. His subject will be, "The Place of Biologics in Warfare."

Other guests who have been invited to meet with the Section are: Brig. Gen. C. C. Hillman, Col. C. F. Shook, Col. M. E. Griffin and Col. Clifford V. Morgan, all of the U. S. Army Medical Corps; Capt. Carlton L. Andrus and Commander C. R. Wilcox, both of the Medical Corps, Bureau of Medicine and Surgery, Navy Department.

The first general session will be held Monday, May 3, and will be addressed by Lawrence A. Appley of the War Manpower Commission who will speak on "Full Utilization of Manpower."

The speaker at the luncheon will be Dr. Franklyn Bliss Snyder, president of Northwestern University. His subject will be, "Education, Research and the War." S. DeWitt Clough, president of Abbott Laboratories, will preside.

Other outstanding men who will participate in the convention program are: Fred J. Stock, War Production Board; Dr. Austin E. Smith, secretary of the Council on Pharmacy and Chemistry, American Medical Association; C. Wayland Brooks, United States Senator; Dr. Morris Fishbein, editor, The Journal of the American Medical Association; Dr. Anton J. Carlson, Professor of Physiology, University of Chicago; Joseph D. Coppock, Price Executive, Office of Price Administration; and

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John J. Toohy and Frank A. Delgado, both of the Office of Price Administration.

Meyer Heads Associated of Missouri

The annual meeting of the Associated Drug and Chemical Industries of Missouri was held in St. Louis, March 10. The new officers elected at the meeting are: president, Morton Meyer, Thompson-Hayward Chemical Co.; 1st vice-president, Franc Barada, Fritzsche Brothers Co.; 2nd vice-president, Paul Hein, Mallinckrodt Chemical Works; 3rd vice-president, Morton S. Johnson, Solvay Sales Corp.; secretary, Charles E. Caspari, Jr., Monsanto Chemical Co.; treasurer, J. Louis Lanz. The executive committee is composed of Charles Godefroy, Godefroy Manufacturing Co., Dr. J. S. Brewer, Sayman Products Co.; and Dr. H. W. Sawyer, Legear Medicine Co.

Flavoring Extract Meeting

The Flavoring Extract Manufacturers' Association will hold its annual business meeting at the Hotel Pennsylvania, New York, May 24 and 25. The meeting this year will be streamlined. The outside entertainment which usually goes with the convention has been entirely eliminated and the meeting will be devoted strictly to business.

Oil Trades Assn. Elects

Officers for the coming year elected at the annual meeting of the Oil Trades Association of New York, held at the Waldorf-Astoria, March 9, included W. M. Osborn, Zimmerman Alderson Carr Co., president; Clarence Davison, Standard Oil Co. of New Jersey, vice-president; Joseph C. Smith, Smith-Weihman Co., Inc., secretary; and Rudolph G. Sonneborn, L. Sonneborn Sons, Inc., treasurer.

BIMS Golf Meetings

This summer the BIMS will hold only two golf meetings. The first will be June 23 at the Wykagyl Country Club, New Rochelle, N. Y., and the second will be at the Garden City Country Club, Garden City, N. Y., August 24.

New U.S.P. Change

A U. S. Pharmacopoeial Interim Revision Announcement has been issued covering a second revision of the formula for "Elixir of Phenobarbital" to conserve glycerin still further, and also permission to modify the thread count and weight of Type I Absorbent Gauze. Permission is also given to use this modified gauze in the making of U.S.P. Adhesive Absorbent Gauze, Sterile Absorbent Gauze, and Gauze Bandage.

Financial

American Cyanamid Net Off

American Cyanamid Co. and subsidiaries report for 1942 a net income, after income and excess profits taxes of $15,100,000, of $5,666,901, compared with $6,347,398 in 1941 when the taxes amounted to $11,457,636.

Amer. Home Earnings

American Home Products Corp. reports for 1942 a net income of $4,286,245, or $5.02 a share, after payment of taxes amounting to $5,699,404. This compares with net earnings of $4,364,560, or $5.35 a share earned in 1941 when the taxes amounted to $3,167,139.

Gross sales, including foreign operations, were $63,633,139 for the year, a gain of more than 38 per cent over gross sales of $46,028,918 in 1941. Net sales were $59,796,477, after delivery, returns, allowances, etc., up almost 40 per cent over the total of $42,797,914 in 1941.

Anchor-Hocking Net Up

Anchor Hocking Glass Corp. and subsidiaries report for 1942 a net profit of $1,571,820, equal to $1.96 a common share and comparing with $1,144,374, or $1.36 a share in 1941. Federal and Canadian income and excess profits taxes, after deducting $483,200 Federal post-war refund and $20,194 Canadian post-war refund, amounted to $5,125,013, compared with $1,171,318 in 1941.

Chesebrough Earns More

Chesebrough Manufacturing Co., excluding English subsidiary, reports for 1942 a net profit of $834,114, equal to $6.95 a share and compared with $752,044, or $6.27 a share in 1941. United States and foreign income and excess profits taxes last year amounted to $794,061, against $303,210 for 1941.

Colgate Net Lower

Colgate-Palmolive-Peet Co. reports for 1942 a net profit of $5,383,595, equal to $2.47 a share and comparing with $6,604,891 or $3.09 a share in 1941. Costs and expenses amounted to $108,781,280, compared with $95,112,101 in 1941 and income and excess profits taxes totaled $4,803,242, against $3,688,558.

Sales for the year increased 12.9 per cent to $118,968,117 from $105,405,550 for 1941.

Coty Net Up

Coty, Inc. and its subsidiaries report for 1942 a net profit of $1,395,720, equivalent to 95 cents a share and comparing with an income of $922,881, or 62 cents a share in the preceding year.

Including $88,856 credit representing adjustment of Federal taxes of prior years, and after deducting $600,000 to reserve for general contingencies, a balance of $884,576 was transferred to earned surplus in 1942.

Heyden Net Lower

Heyden Chemical Co. reports for 1942 a preliminary net income of $709,512, or $5.96 a share against $1,003,647, or $9.04 a share in 1941.

Sales for 1942 were $11,156,718, against $9,548,606.

The company has filed a registration statement with the Securities and Exchange Commission, covering a new $4,000,000 issue of preferred stock. The purpose of the proposed issue is to provide funds to retire the present $1,940,000 issue of 4¼ per cent preferred stock and to give the company additional working capital. The dividend rate for the new stock will be filed later by an amendment to the registration statement.

Lambert Earns More

Lambert Co. reports a net profit before income taxes for 1942 of $3,872,639, against $2,366,516 for 1941.

The balance of net profit for the year transferred to consolidated earned surplus amounted to $1,536,085, equal to $2.06 a share, after provision of $600,000 for contingencies and extraordinary expenses. The balance of net profit for 1941 transferred to consolidated earned surplus the preceding year was $1,350,410, or $1.81 a share, after provision of $200,000 for contingencies and extraordinary expenses.

Merck Net Lower

Merck & Co. reports for 1942 a net income of $2,820,128, equal to $2.32 a share on the common stock and comparing with a net of $3,155,539, or $2.88 a share earned in 1941. In 1942 taxes amounted to $7,253,727, against $5,891,494 in 1941. Against this tax

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liability the company had United States Treasury Tax Notes of $1,000,500 at the close of 1942, as compared with $4,008,000 December 31, 1941.

Sales for 1942 amounted to $43,544,752 as compared with $39,615,121 for 1941.

National Can Shows Loss

National Can Corp. and subsidiary report for 1942 a net loss of $915,025, after providing $58,500 for obsolete materials and parts in inventories, contrasted with a net profit of $182,035, or 25 cents a share in 1941. Last year the company appropriated from earned surplus $4,000,000 as a reserve for revaluation of fixed assets.

Norwich Pharmacal Earnings

Norwich Pharmacal Co. and subsidiary report for 1942 a net profit of $729,763, equal to 91 cents a share and comparing with a profit of $788,013, or 99 cents a share the previous year. Provision for United States and Canadian income taxes in 1942 amounted to $371,935 and excess profits taxes, after deducting $79,595 post-war refund credit, were $716,360. These compare with $347,132 and $222,908 respectively for 1941.

Sales in 1942 were $8,275,000 compared with $6,049,000 the year before.

Package Machy. Earns More

Package Machinery Co. reports for 1942 a net profit of $538,658, or $14.53 a share, against $406,807, or $10.97 a share in 1941.

Parke, Davis Net Down

Parke, Davis & Co. and subsidiaries report for 1942 a net profit of $6,319,228, after provision of $5,150,000 for Federal and foreign income taxes and a provision of $2,750,000 for excess profits taxes, after deducting $350,000 for a post-war refund. This is equivalent to $1.29 a share and compares with a net profit of $8,006,462, or $1.64 a share in 1941, when Federal and foreign income taxes amounted to $4,500,000 and excess profits taxes were $2,000,000.

Pfizer Earns More

Chas. Pfizer & Co., Inc. reports for 1942 net earnings of $1,266,475, equal to $2.53 a share and comparing with $1,136,044, or $2,27 a share in 1941. Provision for Federal income and excess profits taxes in 1942 amounted to $2,050,000, against $1,300,000 the year before.

Sales in 1942 reached a new high of $11,377,252, a gain of 10.14 per cent over the $10,329,750 of 1941.

Zonite Net Up

Zonite Products Corp. and subsidiaries report for 1942 a net profit of $241,416, equal to 29 cents a share and comparing with $226,243, or 27 cents a share in 1941. It is believed that the company will not be subject to excess profits tax but, aside from that, the tax bill was $235,257. In 1941 taxes were $104,795.

Richard R. Penfold

Lieut. and Mrs. J. R. Penfold announce the birth of a boy, Richard R. Penfold, at Rockeville Center, on March 19. Mrs. Penfold is the daughter of Richard R. Powell, president of Plexo Labs., New York. Lieut. Penfold is in the Naval Air Service stationed in San Diego.

Obituaries

H. N. Bowman

Homer N. Bowman, treasurer of the Bowman Drug Co., Canton, Ohio, died at a hospital in that city March 2 as the result of a heart attack. He was sixty-one years old.

Mr. Bowman, who was known to his friends as "George," was born in Tennessee and went to Canton in 1902 after his graduation from Scio College of Pharmacy, now part of Mt. Union College. In Canton he and his two brothers, James C. Bowman, who died March 7, and the late H. A. Bowman, opened a retail drug store. A short time later they formed the Bowman Drug Co., wholesale druggists. "George" Bowman was the company's youngest salesman. In 1910, following the death of H. A. Bowman, he succeeded him as treasurer, the position which he held at the time of his death. In 1914 the company undertook the manufacturing of drugs and he took charge of the division related to physicians and hospital supplies.

Mr. Bowman served in France in 1918 as a Y.M.C.A. secretary. He was former president of the Canton board of education, a member of the board of the Canton Welfare Federation and active in other civic affairs.

James C. Bowman

James C. Bowman, president of Bowman Brothers Drug Co., Canton, Ohio, died at his home in that city March 7, only five days after the death of his brother, H. N. Bowman. He was sixty-four years old.

He was born in Loudon County, Tenn. and went with his family to Somerset, Ohio, at the age of twelve. For a short time he operated a grocery store with his brothers in Reddington, Ohio. He then attended Scio College of Pharmacy and from there went to Ohio State University from which he was graduated as a pharmacist in 1898. For two years he worked in a drug store in Youngstown and then went to Canton. Later he joined with his brothers in the operation of a drug store and in the formation of Bowman Brothers Drug Co.

William Handler

William Handler, vice-president in charge of the laboratory of Weinberger Drug Stores, Inc., Cleveland, died February 16 at his home in that city. He was seventy-five years old.

Mr. Handler was born in Lock Haven, Pa., and was a graduate of the Philadelphia School of Pharmacy. Before joining the Weinberger company in 1928, he was for sixteen years a chemist with the Pompeian Co. He was known as a fine perfumer and was credited with originating many pharmaceutical and cosmetic products.

Albert L. Miller

Albert L. Miller, account executive for the Erwin-Wasey Co., New York, was accidently killed in a fall March 20. He was thirty-nine years old.

Mr. Miller had been with Erwin-Wasey for eighteen years since leaving Dartmouth College. He had been attached to the firm's Chicago, London and Paris offices before coming to the New York office. He was a son of George H. Miller, president of the Musterole Co., Cleveland.

Harry S. Noel

Harry S. Noel, director of trade relations for Eli Lilly & Co. died in Indianapolis, March 4.

He was a graduate of the Albany College of Pharmacy and was the editor of Eli Lilly's house organ, "Tile and Till." Dr. Noel also originated the annual Lilly Digest of drug store operations.

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INDUSTRY'S BOOKS

The March of Medicine, The New York Academy of Medicine Lectures to the Laity, 1942, 217 pp., Illus., Columbia University Press, $2.50.

A knowledge of the progress of medicine in general and of the history of individual diseases is quite as necessary to the layman who seeks to achieve and maintain abundant health as to the student of research. To stimulate such interest in health matters and to furnish factual information, the New York Academy of Medicine several years ago instituted its annual series of Lectures to the Laity, which have proved highly successful. Here, in book form, are the lectures given in the latest series. Anyone, physician or layman, who would enjoy hearing a top-ranking medical expert talk about some phase of his special field will appreciate these essays, in which six authorities discuss, in simple but scientific terms, the background and recent developments of some vital problems of body and mind. Thoughtful readers will discern a common underlying implication: as man is a social being, individual welfare depends upon social progress. Now, when we are defending our freedoms, there is especial significance in these accounts of medicine's unceasing fight toward the remote, yet perhaps now impossible, goal of freedom from ill-health. Contents: Tuberculosis—Miller; The Brain and the Mind—Putnam; The Freudian Epoch—Brill; Genius, Giftedness, and Growth—Gesell; The History of the B-Vitamins—Jolliffe; The Newer Knowledge of Nutrition—Carlson.

Miracles of Military Medicine, by Albert Q. Maisel, 373 pp., Duell, Sloan And Pearce, New York, $2.75.

In a quickened world where science leaps in a few months the span which might normally have taken years, we are evolving new weapons which may play just as important a part in winning the war as tanks and planes. These are the new weapons of medicine and surgery—the weapons which save lives. Today we have the sulfa drugs, we have bottled and dried blood, new painkillers, new anaesthetics, new forms of treatment, new surgical procedures. We have the toxoids that are wiping out tetanus, the inoculations that end the menace of yellow fever. We have synthetic specifics against malaria without which our armies could not hope to fight in the tropics. Most important of all, we have developed to a high level of perfection the means for bringing these inventions to the individual soldier speedily—in time to do the utmost good. It is these new drugs, devices and techniques which maintain the fighting strength of our troops at a higher level than ever before. These weapons are vital to the maintenance of morale and the will to fight in the face of mechanized destruction. In the final reckoning, these weapons will be responsible for the fact that tens and hundreds of thousands of men, who would have died in any previous war, won't die in this one. This book has been prepared with the advice, analysis and criticism of medical men both in civil practice and in the armed services.

Happy Land, by MacKinlay Kantor, 92 pp., Coward-McCann, Inc., New York, $1.25.

This is the story of Rusty Marsh, a small town druggist. It is the story of small town American people who, because of their background in the simple fare of American life are so well able to meet the contingencies of war. It presents a strong argument for the American way of life and a sincere determination to see it survive.

Proteins, Amino Acids And Peptides, by Edwin J. Cohn and John T. Edsal, Harvard Medical School, 686 pp., American Chemical Society Monograph series No. 90, Reinhold Publishing Corp., New York, $13.50.

This book is a characterization of amino acids, peptides and proteins. Its aim is to examine the evidence concerning the size and shape of these molecules, and the number and distribution of the electric charges which they bear. Above all is considered the implications of their charged structure for their physical properties, and their physiochemical interaction with other molecules. This book represents the collaboration of a large group of closely associated workers including George Scatchard, John G. Kirkwood, Hans Mueller, J. L. Oncley, Ronald M. Ferry, W. T. Salter, Jeffries Wyman, Jr., A. von Muralt, Marcel Florkin, T. L. McMeekin, A. A. Green, J. P. Greenstein, N. F. Burk, N. R. Joseph, Danella Straus-Cope, V. E. Morgan, J. Steinhardt, J. A. Luetscher, Jr., H. L. Fevold, G. E. Perlman, I. Frankuchen, W. L. Hughes, Jr., and L. E. Strong. Through constant association over a period of years, through discussions in seminar meetings, through cooperation in the laboratory, and through personal contacts, this body of thought has become the product of their collaboration. Contents: Spectroscopy and Dipolar Ionic Structure, Edsall; Thermodynamics and Simple Electrostatic Theory, Scatchard; Dipolar Ions and Acid-Base Equilibria, Edsall; Some Relations Between Acidity and Chemical Structure, Edsall; Dielectric Constants and Dipole Moments of Dipolar, Edsall; Apparent Molal Volume, Heat Capacity, Compressibility and Surface Tension of Dipolar Ions in Solution, Edsall; Solubility of Amino Acids, Peptides and Related Substances in Water and Organic Solvents; Edsall and Scatchard; Interactions Between Organic Solvents and Dipolar Ions Estimated From Solubility Ratios, Cohn and Edsall; Interactions Between Amino Acids, Peptides and Related Substances, Cohn; Interactions Between Ions and Amino Acids or Peptides, Cohn; The Theoretical Interpretation of the Properties of Solutions of Dipolar Ions, Kirkwood; The

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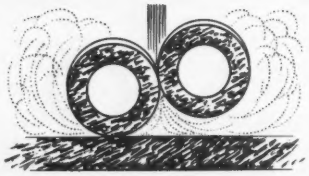
Are you having any trouble with your SOAP?

Over 40 years ago, the first Neutral Powdered White Soap was introduced to the manufacture of cosmetics and proprietary remedies by the House of Hopkins. Though perfected through the years by various technical improvements, Hopkins' Rajah Brand Neutral Powdered White Soap is today made *under the same original formula and process.* Not one, but many, qualities account for this remarkable fact. For example, Hopkins' Neutral Powdered White Soap gives you—

- *extreme snow-whiteness*
- *thoroughly neutral taste*
- *total absence of free alkali*
- *low moisture content and very low residue of alcohol, water and sodium carbonate*
- *resistance to varying temperatures*
- *good meshing quality*
- *a non-rancid, non-hardening, fine-looking finished product*

Send for a free sample to use in a trial batch, stating the nature of your product. Quotations on request.

COLD GRANITE MILLING and what it means to you



To insure against discoloration and rancidity which usually develop from excessive heat in the process of milling, Hopkins' Neutral Powdered White Soap is milled between slow geared chasers (only 70 rpm). This method is slower and more painstaking, yet our prices compare favorably with lesser qualities, due to our large production.

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Structural Basis of the Protein Molecule, Edsall; X-ray Diffraction Studies and Protein Structure, Edsall; The Elementary and Amino Acid Composition of the Proteins, Cohn; Density and Apparent Specific Volume of Proteins, Cohn and Edsall; Osmotic Pressure and Molecular Weights of Proteins, Edsall and Cohn; Translational Diffusion of Amino Acids and Proteins, Edsall and W. Mehl; Sedimentation and Diffusion in Centrifugal Fields Edsall; Proteins As Acids and Bases, Edsall; Rotary Brownian Movement. The Shape of Protein Molecules as Determined From Viscoty and Double Refraction of Flow, Edsall; The Electric Moments and the Relaxation Times of Proteins as Measured from Their Influence Upon the Dielectric Constants of Solutions, Oncley; The Solubility of Proteins, Cohn; The Interactions of Proteins with Ions and Dipolar Ions, Cohn and Ferry; The Theory of Electrophoretic Migration, Mueller.

Adhesives, by Felix Braude, Ph.D., 154 pp., Chemical Publishing Co., Brooklyn, $3.

This book was written primarily for the practical man who is interested in adhesives and glues either as producer, consumer of salesman. The subject is presented from the practical point of view with a minimum of theoretical discussion. Contents: Theory and Application; Tests for Adhesives; Raw Materials; Flour Pastes and Starch Adhesives; Dextrin Adhesives; Casein Adhesives; Vegetable Glues; Animal Glues; Sodium Silicate Adhesives; Rubber Dispersions and Solutions as Adhesives; Miscellaneous Adhesives; Equipment for the Manufacture of Adhesives; Water Insoluble Adhesives; Rubber Adhesives; Rosin and Its Derivatives; Gums and Resins (Natural and Synthetic); Adhesives Derived from Synthetic Materials; Wax Adhesives; Putties.

The National Malnutrition, by D. T. Quigley, M.D., 113 pp., The Lee Foundation for Nutritional Research, Milwaukee, $1.50.

Dr. D. T. Quigley, nationally known authority on cancer and nutrition, has set forth in easy-to-read, non-technical language, the role of nutrition in the prevention and treatment of an ever-increasing number of diseases and disorders known to be related to inadequate dietary practices. This book presents a clear-cut analysis of vitamin and mineral therapy in clinical practice, rather than merely presenting a series of research notes. Sub-clinical deficiencies and their relation to disease are emphasized, instead of "specific" deficiency diseases. Contents: Our Dietary Needs; Why We Must Have Vitamins; Why We Must Have Minerals; Our Dietary Intake (What Do We Get); What Are The Results Of Our Dietary Errors; How Widespread Are Deficiencies; Cancer—Its Treatment And Prevention; Nutritional Treatment of Anemia; What Must Be Done?

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DRUG AND COSMETIC INDUSTRY
101 W. 31st Street New York, N. Y.

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can STILL BE BEAUTIFUL

DURLIN will play its part in upholding civilian morale by continuing the flow of nail enamel to the leading cosmetic packagers. Their products are helping to maintain the fine spirit of the American women during the present period of emotional stress.

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11 WEST 42nd ST. NEW YORK, N. Y.

Conserving the nation's health, as well as that of the fighting forces, is vital to our defense program . . . and increased production facilities must be provided to fulfill the requirements of this program. While it is a fact that most of our plant capacity is engaged in direct defense work for government purchasing agencies, we are, nevertheless, most anxious to be of the greatest possible aid to our friends in the Drug Industry.

If you have production problems . . . modern Stokes equipment can help you. We invite consultation . . . to determine possible solutions.

We have just printed a new 48-page catalog on Tablet Compressing Machines . . . illustrating the complete line of Stokes Single Punch and Rotary type machines for pharmaceutical and other industrial applications. It contains specifications, describes advantages of Eccentric, Cam-operated and Rotary machines, gives helpful suggestions on selection of machines and special equipment, etc.

You will need a copy of Catalog 41-T for reference and filing . . . write for it.

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5932 Tabor Road Olney P. O. Philadelphia, Pa.

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F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

DEHUMIDIFYING

Tamms Silica Company, 226 North LaSalle Street, Chicago, manufacture a non-priority material which might be helpful to you, in the absence of properly controlled automatic equipment, in dehumidifying small areas. The powdered material is provided in small bags capable of dehumidifying approximately 1,000 cubic feet of space. Water adsorbed from the air causes the powder to form a brine which drips from the bags into a closed receptacle. The powder costs 85 cents for a ten pound sack. Obviously, any method to attempt to dehumidify any area without provision for the mechanical movement of air is bound to produce inadequate and variable results. However, the results given by these adsorption units is good enough for many practical purposes. Some manufacturers have products, too low in volume to warrant the installation of dehumidifying equipment, which cannot be made during periods of high humidity. For such sporadic uses adsorbent powders serve a useful purpose. Sometimes the compression of effervescent tablets on rotary presses is troublesome. In such instances enclosing the presses and exposing bags of adsorbent chemical inside the enclosures is very helpful.

TAPE SEALING

Last month we told you about a machine made by the Vertex Company for taping bundles of cartons together. We neglected to mention that the same outfit also makes a machine for applying paper over the ends of a glued flap carton, at the same time folding and gluing the paper cap down on the sides of the carton. It is desirable to remember such a machine because it occasionally becomes necessary to utilize a glued flap carton. As you know, of course, all such cartons have four openings at each end which cannot be sealed because of the essential nature of the flap construction. It is through these small openings that glued flap cartons will always sift unless an inner bag or lining is provided. It is because of such openings, moreover, that glued flap cartons can never be made moisture vapor proof. Obviously, a paper cap glued over both ends of such a package eliminates sifting and, depending on the materials of construction, provides moisture proofing.

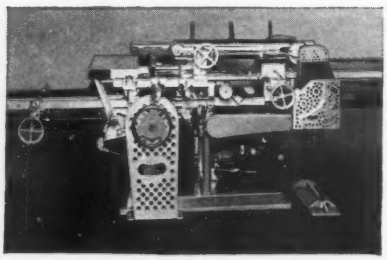
The Vertex Company manufactures also an automatic machine for applying self sealing tape around the joint formed between cover and body on cylindrical containers. This machine has a capacity of 40 containers per minute and is adjustable for containers from 2 to 6 inches in diameter by 5 to 25 inches in length. If you are having an excessive amount of trouble with sifting of talcum powder cans it will pay to look into this.

DRUM DRYER

Salem Engineering Company, Salem, Ohio, have developed for the mechanical industries, a rotary drum dryer which struck me as having several potential applications in our industry. The name of the device is the Salix Dryer. The assembly consists of a stationary, horizontal cylinder containing an interior perforated drum. The inside drum contains an internal, spiral vane for the purpose of agitating the material being dried and forcing it along from one end of the drum to the other. The unit also comprises heating elements and a blower which are mounted on top of the assembly which is nine feet in overall length and four feet wide. This is the first self-contained, small drum dryer I have

NEW Wrapping Machines for WAR WORK

or Essential Civilian Supplies



MODEL FA

One of our models now widely used in current war production. This machine is adaptable to any wrapping material, and is quickly adjustable for various size packages.

We have so arranged our production, that the building of a limited number of essential wrapping machines does not interfere with our armament work . . . Also, by redesigning our machines, we have eliminated a large percentage of strategic materials formerly used.

Orders for such machines must, of course, bear high priority. And under present conditions, it is advisable to consult us as far in advance as possible.

So if you need, or will need, a new wrapping machine to meet demands for essential civilian supplies or to fill government contracts, get in touch with us now. We will be glad to give you helpful information regarding priorities required and the time it will take to supply you.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts

NEW YORK CHICAGO CLEVELAND LOS ANGELES TORONTO

PACKAGE MACHINERY COMPANY

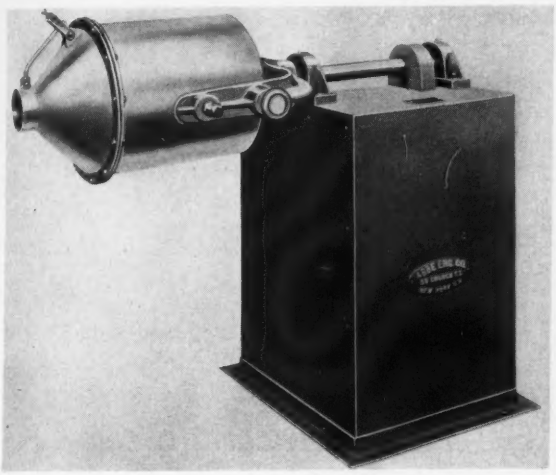
Over a Quarter Billion Packages per day are wrapped on our Machines

ever seen. Its possible use for drying chemicals, tablet granulations, and for fusing effervescent salts at once suggested itself.

SPECIAL PROCESSING MILL

A special grinding, mixing, or compounding mill has been developed by Abbe Engineering Company, New York, N. Y. for relatively small or moderate size batches of wet or dry material. This mill makes it possible to fill, grind and discharge the material without removing the container from the frame.

The metal jar or container, which can be made of any desired capacity, (the one illustrated is 15 gallons) has a cone shaped cover, gasketed and bolted to it. At the end of the cone there is a welded collar with a special



rubber plug valve with a take-up lever working freely for charging and discharging the processed material without removing the grinding balls. If the grinding medium must be removed, the entire cone can be unbolted from the container.

The container is mounted in a U-shaped metal frame and is equipped with fittings so that it can be tilted vertically with valve up for charging or with valve down for discharging, and horizontally for grinding or mixing. The shaft from the U-frame is supported in two ball bearings, mounted on a welded enclosed base with a roller chain drive from the sprocket on the shaft running to an explosion proof, gear head motor mounted on a sub-base inside the housing. The wall plates of the housing are bolted to an angle iron frame and are easily removable for access to the motor.

BUTTERFLY VALVES

R. S. Products Corp., Wayne Junction, Philadelphia, Pa. manufacture a standard line of butterfly valves in a great variety of diameters. This is brought to your attention because in designing hoppers for fine powders, butterfly valves generally are very much more desirable than slide gates which have a tendency to clog the slides.

CENTRIFUGAL AIR SEPARATOR

The Gayco Reliance Centrifugal Air Separator made by the Rubert M. Gay Division of Universal Road Machinery Company, 117 Liberty Street, New York, offers a means by which very fine dry separations of various kinds can be made. One way of assuring yourself of an ultra fine face powder is to use one of these separators in conjunction with a hammermill. A set up can be made which will deliver a product of 400 mesh or finer. The tailings can be returned to the mill continuously until the entire batch is uniformly fine.

STEAM GENERATOR

A good cosmetic manufacturer uses varying quantities of steam in amount which does not justify the operation of a large, elaborate steam plant. Such manufacturers will be interested in the Lodi steam generator made by the Super Mold Corp. of Lodi, California. This generator is available in several models, gas or oil fired, in capacities up to 70 hp. at 150 pounds pressure. This unit does not require a pit or foundation and can be set up anywhere in the plant. This generator is designed so that the fire box is an integral part of the generator coil. The design of the coils is such that maximum heat transfer is obtained. The entire unit, consisting of the generator, firing mechanism, control instruments, etc. is completely self-contained and requires only fuel and water connections and a means of venting the exhaust gases in order to put it into operation. It does not require electric power in any form to secure automatic operation. A feature of this apparatus which will be of interest to chemists and pilot plant operators is that this device can be obtained in sizes as small at 5, 10, and 15 hp. As a matter of fact at the present time only the small sizes are in operation.

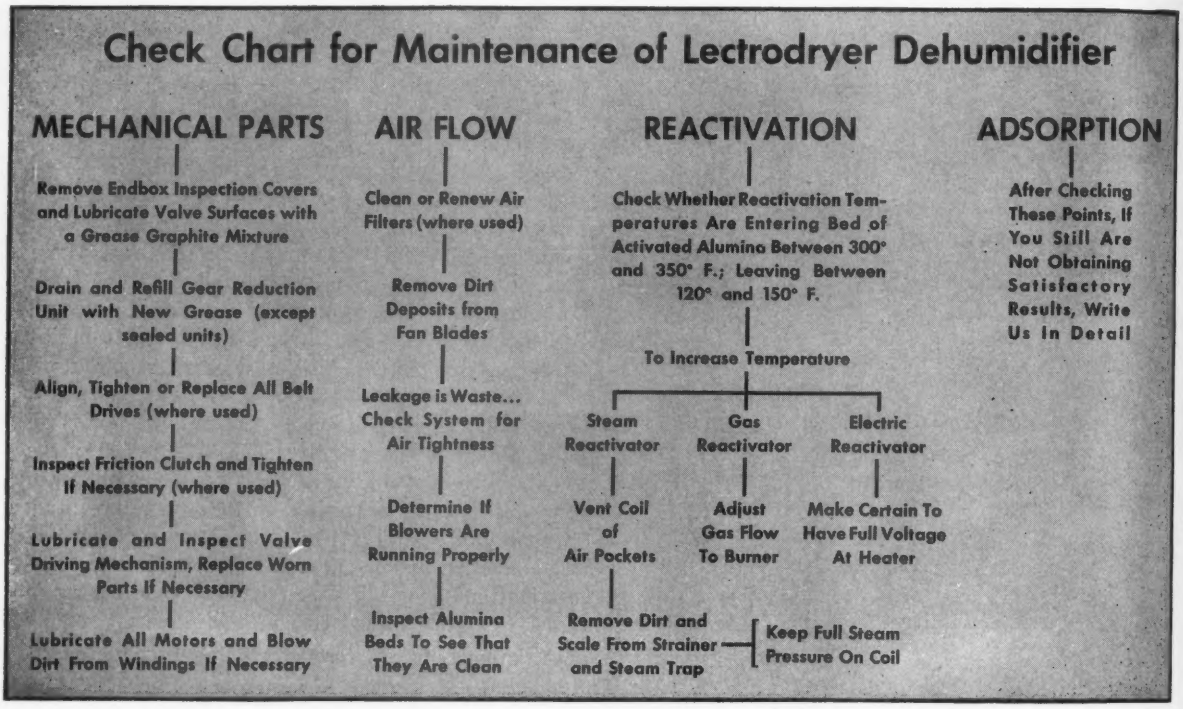
ARIDIFER

Logan Engineering Company, Lawrency and Lamon Aves., Chicago, Illinois, manufacture a device known as the Aridifer which is used for the purpose of removing water and other contaminants from compressed air lines. The device consists of a series of vaned rotors mounted within a cast iron housing. Air passing upward through the rotors causes them to revolve rapidly and water, oil or any other foreign matter impinging against the rapidly rotating rotors is thrown outward by centrifugal force and runs downward along the inner walls of the housing to the drain trap.

PREVENTING BARREL LEAKAGE

My old friend, Charles A. Gillespie of Chicago, has just made a timely suggestion for preventing leakage in wooden barrels. Since many fluid materials are now being received in wooden barrels, it becomes important to prevent leakage during the storage period, especially when the liquid in the barrel is used only in small quantities from time to time. Charlie points out that when you up end a wooden barrel and keep it in

It's time to get ready for summer


Check Chart for Maintenance of Lectrodryer Dehumidifier
MECHANICAL PARTS
Remove Endbox Inspection Covers and Lubricate Valve Surfaces with a Grease Graphite Mixture
Drain and Refill Gear Reduction Unit with New Grease (except sealed units)
Align, Tighten or Replace All Belt Drives (where used)
Inspect Friction Clutch and Tighten If Necessary (where used)
Lubricate and Inspect Valve Driving Mechanism, Replace Worn Parts If Necessary
Lubricate All Motors and Blow Dirt From Windings If Necessary
AIR FLOW
Clean or Renew Air Filters (where used)
Remove Dirt Deposits from Fan Blades
Leakage is Waste... Check System for Air Tightness
Determine If Blowers Are Running Properly
Inspect Alumina Beds To See That They Are Clean
REACTIVATION
Check Whether Reactivation Temperatures Are Entering Bed of Activated Alumina Between 300° and 350° F.; Leaving Between 120° and 150° F.
To Increase Temperature
Steam Reactivator
Gas Reactivator
Electric Reactivator
Vent Coil of Air Pockets
Adjust Gas Flow To Burner
Make Certain To Have Full Voltage At Heater
Remove Dirt and Scale From Strainer and Steam Trap
Keep Full Steam Pressure On Coil
ADSORPTION
After Checking These Points, If You Still Are Not Obtaining Satisfactory Results, Write Us In Detail

Your Lectrodryer dehumidifier was installed to give you "winter weather" the year-round. If it has been idle all winter, prepare it for service now. Then it can be placed in operation at a moment's notice, before summer humidities have a chance to cut down and impair the quality of your production.

Lectrodryers need very little attention. Follow the instructions on this check chart. If there's anything on which you need help, call on us. We'll gladly advise you.

You may have a large original of this chart to hang near your Lectrodryer for future reference. For a copy, write PITTSBURGH LECTRODRYER CORPORATION, 309 32nd Street, Pittsburgh, Pennsylvania.

LECTRODRYERS DRY WITH ACTIVATED ALUMINAS

PITTSBURGH
LECTRODRYER
CORPORATION
Reg. U.S. Pat. Off.

storage for any length of time, the upper end where there is no liquid will dry out and shrink. Consequently, when the barrel is lowered or turned over, seepage will result. Charlie says that immediately on receiving wooden barrels, you should give them a good coat of silicate of soda. This will keep the seams tight regardless of length of time the barrels are instorage. The idea is very practical and it should work as well with wooden tanks.

LIFT TRUCK VERSATILITY

Manufacturers seeking ways to speed the handling of motors, irregular packages, bales, machinery, and other loads ordinarily handled on crane hooks will find an economical, flexible solution in the crane-arm equipped Towmotors developed by Towmotor Company, Cleveland, Ohio.

Extremely versatile in moving all types of materials on standard forks, the lift truck becomes even more adaptable by virtue of this conversion for specialized applications. Loads are quickly raised from the floor for carrying, moved rapidly along narrow aisles and up ramps and maneuvered into position with a minimum of labor.

As illustrated, the crane arm attachment may be used either with or without forks. It is quickly demountable and interchangeable with standard forks so that the Towmotor on which it is used can be diverted to special handling assignments in a few minutes, without interrupting regular flow of materials.

PRISM MIXER

Robinson Manufacturing Company, of Muncy, Pa., have introduced a prism shaped mixer which is eccentrically mounted in the horizontal plane and driven by a gear head motor. Rotation of the prism shaped drum imparts a counter current mixing action which is recommended for materials like tablet granulations which cannot stand an accessive amount of agitation.

BOLTING MACHINE

Sprout Waldron & Company, Muncy, Pa., have boiled down the old fashioned bolting reel into a compact unit recommended for materials that are lumpy. The enclosed screen cage contains an agitator to break up lumps.

BLACKOUT SHADES

Clopay Corporation, Cincinnati, Ohio, manufacture a special type of tough blackout papers with which you can make inexpensive blackout shades for your plant. The material looks very good.

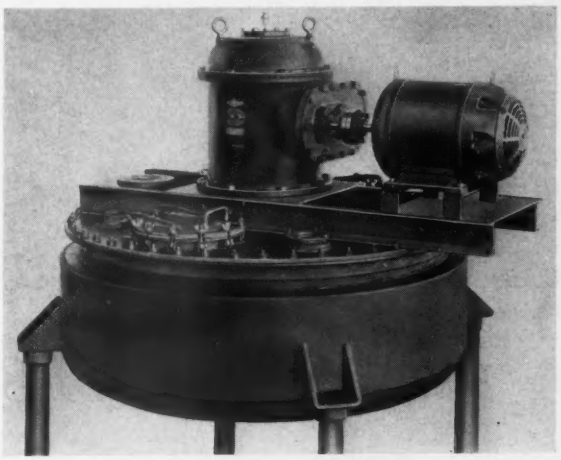
AIR MOTOR

Gast Manufacturing Corp., Benton Harbor, Michigan, manufacture a very simple type of air motor for applications where explosion hazards are involved. The same outfit also makes a line of very simple rotary vacuum pumps and compressors.

PASTE MIXER

For mixing or processing thick, heavy or viscous materials, creams or pastes which must be heated and which have a tendency to settle or cake at the bottom or adhere to the sides of the processing vessel, a special kettle has been designed by L. O. Koven & Brothers, Inc., Jersey City, N. J.

This kettle is made of steel, stainless steel or any other metal required for the material handled. It is of A.S.M.E. type all welded construction. A full steam or hot water jacket surrounds the kettle for heating the contents. The motor driven mixing and scraping



mechanism consists of a U-shaped paddle agitator which, when rotated, simultaneously removes the material from the sides and concave bottom of the kettle, throwing it back toward the center. This plus the action of oblique blades supporting the U-shaped paddle shear through the mass, causing a more uniform kneading and dispersion. Constant removal of the material from the sides and bottom prevents caking and overheating and permits thorough and faster heating of the product.

A vapor tight cover is bolted to the kettle. It is provided with two large, hinged, swing bolted manhole covers for easy opening and closing, two sight glasses and a flanged pipe connection for introducing liquids to the mixture.

SEND FOR A COPY

Vol-U-Meter Inc., a bulletin on a hand operated paste filler, also a bulletin on a variety of small liquid fillers.

Talk-A-Phon Manufacturing Co., 1219 West Van Buren Street, Chicago, a bulletin on two way inter office and inter factory radio communication systems.

Acadia Synthetic Products Division, 4115 Ogden Ave., Chicago, Illinois, a bulletin on "Saran" thermoplastic tubing pipe and pipe fittings. Saran is one of the new corrosion proof plastics.

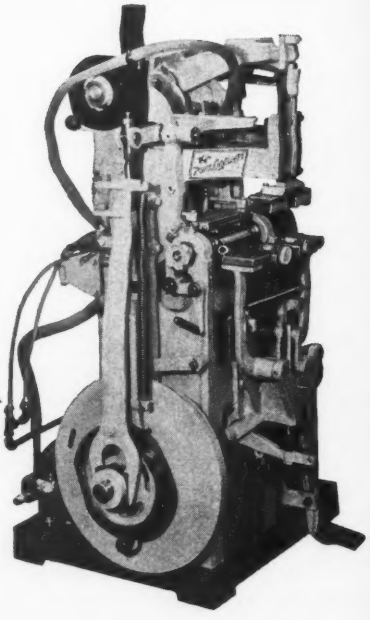
We Suggest: More War Bonds for Axis Destruction---

Lockheed Lightnings like the one above, are Bond-Bought Fighters active in the Pacific, Europe and Africa. U. S. A. Official Photo

---and *LABELRITES* for Maximum Production!

Right now, Labelrites are taking second place in our schedules. Like other machine designers we are specializing in building units which can advantageously utilize New Jersey mechanisms in various War supply items. Cartridge belt loaders, cartridge-sealing equipment, etc.

Where priorities are obtainable, for labeling products destined for Army or Navy use, we have been glad to turn out Labelrites which speed up the production lines, and lower the costs because they release workers for other tasks. Semi-automatic Labelrites for "one-at-a-time" or "two-at-a-time" labeling, or fully automatics that handle 120 a minute, may help **you** too!



Precision registry of labels, low-cost of change parts, and ease in "change-over" from one size to another is mighty important. There's a catalog for you which illustrates many of the intricate labeling jobs that Labelrites **have** done. Why not send for it, and prepare for an improvement in **your** production line?

Illustrated at left is a unit which aligns side-arm cartridges, and feeds them for swift packing in manually held cartons.

NEW JERSEY MACHINE CORPORATION

16th Street and Willow Avenue **HOBOKEN, N. J.**

Chicago Office -- 325 W. Huron Street

Oil of Wormseed

(*Continued from page 395*)

Odor	Normal

A composite of the direct oil as obtained by steam distillation of the plant material, and that recovered from the distillation water was made, giving altogether 18¾ pounds of oil or a total yield of 1.33 per cent. The resulting oil was of excellent quality; its constants were as follows:

Specific Gravity at 25°C.	0.972
Optical Rotation	−5°25′
Refractive Index at 20°C.	1.4759
Ascaridole Content	87.1%
Solubility at 25°C.	Soluble in 2 volumes of 70% alcohol and more.
Odor	Normal

The properties conform with the USP XII requirements.

Experiment B:

Fourteen hundred pounds of dried wormseed herb were steam distilled for 35 minutes at a boiler pressure of 100 pounds. The temperature of the distillate was maintained between 115° and 120°F., as in usual distillation practice. A yield of 13½ pounds or 0.96 per cent. of direct oil was obtained. The constants of this oil were as follows:

Specific Gravity at 25°C.	0.966
Optical Rotation	−5°50′
Refractive Index at 20°C.	1.4764
Ascaridole Content	82.9%
Solubility at 25°C.	Soluble in 3.5 volumes of 70% alcohol.
Odor	Normal

The oil, although conforming with the requirements of the USP XII in every respect, was not of quite as good a quality as that obtained by maintaining the temperature of the distillate at 150° to 160°F. (Experiment A).

The distillation waters were redistilled at 100 pounds boiler pressure for 45 minutes. The temperature of the distillate was maintained between 115° and 120°F., as in usual distillation practice. A yield of 2¾ pounds or 0.196 per cent. of oil was obtained. When analyzed, the oil was found to consist practically of pure ascaridole, although not as pure as that obtained at the higher distillate temperature of Experiment A.

The oil showed the following properties:

Specific Gravity at 25°C.	0.997
Optical Rotation	−3°42′
Refractive Index at 20°C.	1.4743
Ascaridole Content	99.3%
Solubility at 25°C.	Soluble in 1.5 volumes of 70% alcohol and more.
Odor	Normal

A composite was made of the direct oil as obtained by steam distillation of the plant material and that recovered from the distillation water. The total yield was 16½ pounds or 1.156 per cent. of oil. The oil was examined and found to conform with the requirements of the USP XII in every respect; however, it was not quite as good as the corresponding oil distilled in Experiment A. The constants read as follows:

Specific Gravity at 25°C.	0.971
Optical Rotation	−5°35′
Refractive Index at 20°C.	1.4761
Ascaridole Content	86.4%
Solubility at 25°C.	Soluble in 2 to 2.5 volumes of 70% alcohol and more.
Odor	Normal

These experiments show that by keeping the temperature of the condenser between 150° to 160° F., instead of at the usual 115° to 120°F., the yield of oil is increased by more than 10 per cent. and the content of ascaridole slightly augmented.

Oil Yield

The yield of oil from dried plants is subject to considerable fluctuation, depending upon weather, maturity of the plants, and method of distillation. Yields up to 2 per cent. have been claimed, but in actual practice the average is 1 per cent. or a little higher. One acre of chenopodium produces on the average from 50 to 60 pounds of oil.

Total Oil Production

Total yearly production of chenopodium oil in Maryland is about 60,000 to 80,000 pounds; in 1940 it was almost 140,000 pounds which is exceptionally large. In 1941 about 60,000 pounds were produced.

Employment of the Spent Plants

The exhausted plant material is drawn from the stills with chains, dumped into a truck, and either spread on the fields to maintain fertility or fed to cattle. For the latter purpose the spent herb must be dried quickly in order to prevent mold, and the installation of fast driers is advisable. Weiland, Broughton and Metzger[1] found that animals can eat large amounts of the exhausted shredded herb without experiencing any toxic effects. They recommend its use in a mixed feed or to supplement the feeding of forage crops.

Physical and Chemical Properties

The USP XII specifies the following limits for wormseed oil:

Specific Gravity at 25°C.	0.950 to 0.980
Optical Rotation at 25°C.	−4° to −8°
Refractive Index at 20°C.	1.4740 to 1.4790
Ascaridole Content (according to the USP XII method)	Not less than 65% by weight.
Solubility at 25°C.	Soluble in not more than 8 volumes of 70% alcohol.

Genuine oils which we received from Carroll County (Maryland) during the years 1938 to 1941 showed constants varying between the following extreme limits:

Specific Gravity at 25°C.	0.937 to 0.985
Optical Rotation at 25°C.	−4°20′ to −12°27′
Refractive Index at 20°C.	1.4741 to 1.4778
Ascaridole Content (according to the USP XII method)	71.6 to 87.4%
Solubility at 25°C.	Soluble in 2 to 10 volumes of 70% alcohol,

1. *Op. cit.*

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	often with a haze or slight turbidity, sometimes with a heavy turbidity, and occasionally with an actual oily separation.

These properties are those of normal commercial distillates. Yet, it will be noticed that they do not fully comply with the requirements of the USP XII, a few lots having exceeded the limits of specific gravity, optical rotation and solubility. Their failure to meet the specifications of the USP was undoubtedly due to one of three factors: abnormal weather; condition of the plant material; or the distillation process as applied by some producers.

From our experience in distilling wormseed oil in a modern factory (Woodbine, Md.) and from our analytical records dating back over many years, we believe that oils of very good quality should meet the following requirements:

Specific Gravity at 25 °C.	Not less than 0.960
Optical Rotation at 25 °C.	Not less than – 8°
Refractive Index at 20 °C.	Not less than 1.4750
Ascaridole Content (according to the USP XII method)	Not less than 75%
Solubility at 25 °C.	Soluble in 8 volumes or less of 70% alcohol, with not more than a slight turbidity.

In our opinion, these standards are better than those given in the USP XII because they encompass oils of highest quality, for instance those distilled from seed alone. There is, however, one point which requires special mention:

The USP XII specifies that the oil be soluble in 8 volumes of 70 per cent. alcohol. Experience has shown us that even good oils of high ascaridole content are often opalescent to slightly turbid in 8 volumes of 70 per cent. alcohol. We had thought that this might be due to the excessive amount of residue contained in the oil, but this contention has been disproved, as will be explained in the section on analysis of wormseed oils.

A Brazilian oil distilled exclusively from seed and analyzed a few months ago in our laboratories showed the following constants:

Specific Gravity at 25 °C.	0.981
Optical Rotation at 25 °C.	– 0°20′
Refractive Index at 20 °C.	1.4765
Ascaridole Content (according to the USP XII method)	91.6%
Solubility	Soluble in 2.5 volumes and more of 70% alcohol.

The oil was of exceptionally good quality.

Analysis of Wormseed Oils

The analysis of wormseed oils presents some difficulty because of the lack of a satisfactory method for determination of the active principle, ascaridole; Smillie and Pessoa[1] believe that the anthelmintic action of wormseed oils is due solely to the presence of ascaridole.

The United States Pharmacopoeia, Eleventh Revision,[2] based the official determination on the fact that ascaridole is soluble in dilute acetic acid. The technique consists of shaking a measured volume of the oil in a cassia flask with 60 per cent. acetic acid, determining the volume of undissolved oil, and calculating the ascaridole content by difference. This is the method developed by Nelson.[3] Although this procedure represents one of the simplest determinations for ascaridole, it suffers from the fact that the analytical values are far from accurate. It has been our experience that normal oils containing as much as 70 per cent. to 80 per cent. ascaridole (as indicated from solubility, gravity, other more accurate methods for the determination of ascaridole, and distillation) often analyze as low as 55 per cent. by the Nelson method. Furthermore, Reindollar[4] has shown that "Hi-Test" oils give results by this method that are too high. A further disadvantage of the Nelson method lies in the fact that the determination is by no means specific for ascaridole; additions of cineol or cineol-containing oils analyze as ascaridole. This is also true of many other oxygenated compounds such as terpineol.

In order to overcome these difficulties, the recent Twelfth Revision of the United States Pharmacopoeia[5] has abandoned the Nelson method and has adopted the Cocking and Hymas[6] procedure, previously official in the British Pharmacopoeia, 1932.[7] The official procedure is given below:

Assay

Place about 2.5 gm. of Oil of Chenopodium, accurately weighed, in a 50-cc. volumetric flask, fill to the mark with 90 per cent. acetic acid, mix well, and transfer a portion of this freshly prepared solution to a burette, graduated in 20ths of a cc. Into a glass-stoppered tube, about 150 mm. in length and 25 mm. in diameter, measure, from graduated pipettes, 3 cc. of a solution of potassium iodide (prepared by dissolving 8.3 cm. of potassium iodide in sufficient distilled water to make 10 cc. of solution), 5 cc. of hydrochloric acid, and 10 cc. of glacial acetic acid. Immerse the tube in a freezing mixture until the temperature is reduced to – 3 °C., add about 5 cc. of the acetic acid solution of the Oil, mix it with the cooled reagent as rapidly as possible, and observe the volume drawn from the burette after 2 minutes, to allow for draining. Set the stoppered tube aside at a temperature between 5° and 10 °C.; then, without diluting, titrate the liberated iodine with tenth-normal sodium thiosulfate. At the same time, conduct a blank test, but dilute the reagent with 20 cc. of distilled water before titrating the liberated iodine. The difference

(*Continued on page 441*)

1. *Jour. Pharmacol* 24 (1924), 359-370.
2. *U. S. Pharmacopoeia* XI (1936), 251.
3. *Jour. Amer. Pharm. Assn.* 10 (1921), 836.
4. *Ibid.* 28 (1939), 591.
5. *U. S. Pharmacopoeia* XII (1942), 319.
6. *Analyst* 55 (1930), 180.
7. *British Pharmacopoeia* (1932), 303.

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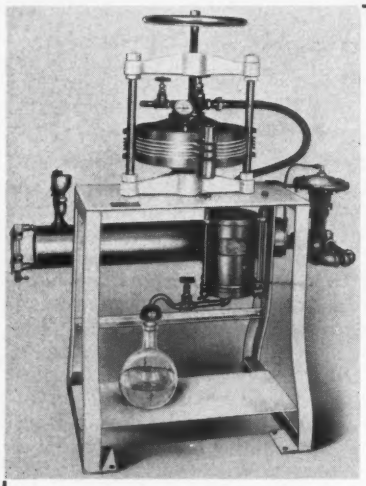

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(*Annals of Surgery, Cotui, M.D., and A. M. Wright, M.D., September, 1942*)

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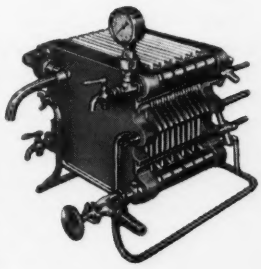

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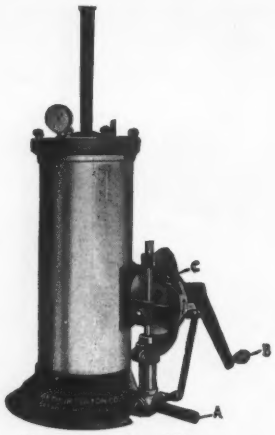

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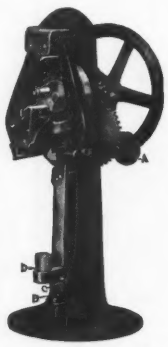

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GLYCERINE SUBSTITUTES

Glycerin substitutes have been studied in specific products, but due to wide differences in formulation, specific recommendations cannot be made. For example, a substitute may prove satisfactory in one brand of vanishing cream, but not in another. A suggested substitute may be of value in a particular product and not in one of another type. For example, methyl cellulose may be satisfactory in a tooth paste but not in a skin freshener. Therefore, all suggested substitutes should be thoroughly investigated from all possible points of view.

With the exception of sorbitol, the following substitutes are available, some more readily than others: Propylene glycol, invert sugar, corn syrup, 2-methyl 2-4 pentanediol, 1-5 pentamethylene glycol, sorbitol, sodium lactate, honey, apple, syrup, propylene glycol borate, methyl cellulose. In addition there are some 13 proprietary materials of which the chemical constitutions are unknown and therefore, they cannot be recommended since it is not definitely known whether or not they are harmful when used in cosmetics. Ethylene glycol, diethylene glycol, and their derivatives cannot be recommended in cosmetics for external use in concentrations greater than 5 per cent because of the attitude of the Food and Drug Administration. They cannot be recommended for products for internal application in any percentage. *Scientific Advisory Committee, Toilet Goods Association, Bulletin 549, March 24, 1943.*

BUBBLE BATHS

Among the modern commercial bubble bath products is one which depends for its detergent action on the sodium salt of an alkyl benzene sulfonate in which the alkyl radical contains about 12 carbon atoms. As sold, the detergent contains about 60 per cent of sodium sulfate. The bubble bath preparation contains about 20 per cent of the detergent and 80 per cent of modified soda or sodium sesquicarbonate. The powdered material is pressed into tablet form.

Other products are based on the fatty alcohol sulfates for detergent and foaming action, often with other foaming agents added. The fatty alcohol sulfate, being indifferent to the effect of pH and hard water, can be combined with either acid or alkaline ingredients. Suggested formulation, with parts by weight, follows:

Sodium lauryl sulfate	400
Soluble starch	50
Sodium cholate	20
Sodium bicarbonate	260
Tartaric acid	180
Adipic acid	50
Pine needle oil	20
Fluorescein	0.1

Sodium lauryl sulfate	130
Sodium bicarbonate	450
Tartaric acid	350
Sodium cholate	10
Soluble starch	50
Pine-needle oil	10

S.P.C. Jan., 1943.

ARMY FOOT POWDERS

Writing on Dermatology in the Army in a recent issue of the Journal of the American Medical Association, Lt.-Col. C. F. Lehmann, M.C., U.S.A., says the following on foot powders:

"Foot powders are recommended; they keep the feet dry, and if they contain a fungicidal or fungastatic agent a better opportunity is presented for a more continuous application, as perspiration dissolves the medicine. In the shoes they help weed out the source of reinfection. A serviceable foot powder is the following: thymol 1 per cent, boric acid 10 per cent, zinc oxide 20 per cent, talc 69 per cent. Use of foot powders containing as much as 3 per cent salicylic acid is contraindicated for soldiers because the salicylic acid adds to the macerating effect of the perspiration and causes a denudation of epithelium. Thus it may defeat its purpose in the attempt to prevent a crippling effect of the infection.

VANISHING CREAM WEIGHTS

To determine the weight of alkali or other base to neutralize any proportion of stearic acid present in a cream, it is necessary to know the equivalent combining weights of the ingredients. The figures usually suggested for this are the weights of the pure products. These figures are: stearic acid 284, potassium hydroxide 56, sodium hydroxide 40, potassium carbonate 69, sodium carbonate 143, liquid ammonia (100 per cent) 35, triethanolamine 149, borax 190.6. In practice, the ingredients used are, with few exceptions, not chemically pure, but if the percentage strength of the ingredients are known, the true equivalent weights can be determined by dividing the equivalent weight of the pure product by the percentage of strength of the commercial product. This rule can be applied to the above named ingredients except stearic acid and triethanolamine.

Since pure stearic acid is unknown in commerce, the figure of 284 is misleading. The commercial product consists of a mixture of stearic acid, palmitic acid, and oleic acid, the average equivalent weight being about 270. Impurities present in triethanolamine also increase the activity and therefore diminish the equivalent weight of the commercial product. As originally introduced it had fairly substantial percentages of mono and diethanolamines and the equivalent

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weight was around 130. The best commercial grades now available contain a minimum of 80 per cent of triethanolamine, a maximum of 15 per cent of diethanolamine, and a maximum of 2.5 per cent of monoethanolamine, with traces of inert residual matter. The equivalent weight is about 140.

The following figures are given as equivalent weights of commercially available products: Stearic acid (acid value 206-210) 270; Potassium hydroxide (90-94 per cent KOH) 60, (80-84 per cent KOH) 68, (50 per cent solution) 112; sodium hydroxide (97-99 per cent NaOH) 40; potassium carbonate (B.P. 97-99 per cent) 70; sodium carbonate crystal (pea crystal) 143; sodium carbonate monohydrate (monohydrated) 62; liquid ammonia (880 strong) 56; triethanolamine (best commercial) 140; borax (B.P.) 190.

An example of the use of these figures is that the number of units of stearic acid neutralized by 1 unit of alkali is determined by dividing the equivalent weight of the alkali into the equivalent weight of the stearic acid. Conversely, the amount of alkali needed to neutralize a given weight of stearic acid is determined by dividing the equivalent weight of stearic acid into the product of the weight of stearic acid times the equivalent weight of alkali. Thus suppose a 100 pound batch of cream contains 20 pounds of stearic acid, of which it is desired to neutralize 25 per cent with 50 per cent potassium hydroxide solution. The weight required is 5 times 112, divided by 270, which gives 2.08 pounds of potassium hydroxide solution, or about 2 pounds, 1 ounce. Frank *Alkins, S.P.C., March 1943.*

NEW SOLVENT

Ethylbutyl Cellosolve, a new glycol ether recently developed by Carbide and Carbon Chemicals Corporation, is a colorless liquid that resembles butyl Cellosolve in many properties, but two additional carbon atoms give it greater hydrocarbon solubility and increase the boiling point to 186° C. It is almost insoluble in water (0.45 per cent at 20° C.); and the solubility of water in the solvent is 8.2 per cent at 20° C. When used in synthetic resin lacquers, it should produce higher gloss, reduction of orange peel, and greater toughness of film.

STABILIZING ESSENTIAL OILS

Oils such as flavoring or perfume oils are stabilized against oxidation by the addition of a small proportion of an aqueous or alcoholic extract of corn, barley, oats, hominy, tapioca, rye, rice, wheat, buckwheat, etc. (suitably with heating to about 250° F. or at a higher temperature). Sydney Musher, assignor to Musher Foundation, Inc., U. S. Patent 2,282,808, May 12, 1942.

EUCALYPTUS FROM BOSQUE LA PLATA

Eucalyptus from the Bosque de La Plata produces an oil with the following characteristics: index of refraction equals any other eucalyptus, boiling point 85° C. is higher, per cent of total alcohols is less, acid number 1.4, and saponification number 22.4 are less. The flowers give 3.5 per cent essence which equals the general range. But the eucalyptol, 46 per cent is low and can be used in only limited formulas. However, it is easily extracted in pure form, which reduces the industrial cost, and it can be of practical use in the soap industry. Leonor Pelanda Ponce. *Rev. facultad. cienc. quim.* (*Univ. nac La Plata*), 15 (1940), 195.

PERFUMERS' MATERIALS

One of the most important raw materials of the perfumer is oil of bergamot obtained from the bergamot fruit procurable only in Southern Italy. With the advent of this nation into the war, supplies of this essential material were completely cut off and the price of spot stocks skyrocketed from $3.75 per pound to a range of $28 to $30 per pound. Many perfumers could not afford to use bergamot oil at these high levels and it became a serious problem how to proceed with the sales of products containing this ingredient.

Fortunately the perfumers of many essential houses had formerly perfected synthetic or imitation bergamots for use in soaps, and by working with these formulas as a basis, they have perfected artificial bergamots which will answer the wartime demand. Our good neighbor, Brazil, has supplied us with the bois de rose from which linalyl acetate (a natural ingredient) could be manufactured by acetylization. Our Pacific Coast supplied the lemon and orange oils so valuable in maintaining the citrus note, and the aromatic chemical manufacturers supplied the acetates of terpineol and geraniol. In addition, the aromatic chemical manufacturers supplied a linalyl acetate produced from oil of petitgrain, South American,—one of the new wartime natural derivatives exceptionally valuable in soap.

No doubt when natural bergamot oil again becomes available after the war, a good deal of the artificial material will be discarded in favor of the natural product. But it is a good guess that bergamot oil, artificial, has come to stay and in the future will hold an important place on the perfumers shelf. The excellent research by the perfumer has made it possible for us to enjoy many of the products which would have been taken off the cosmetic market had these developments not been achieved.

Prior to and during World War I, aromatic chemicals and natural derivatives were imported from Europe, and, with the advent of war, prices of these materials rose to unusual heights. Many old essential dealers as well as perfumers will recall phenyl ethyl alcohol selling at $72.00 per pound, and hydroxycitronellal at $65.00 per pound. Many hazardous trips to neutral countries of Europe were made to purchase whatever was available, and it was not until 1918 that several manufacturers started production of these materials here. From that time on the number of manufacturers has increased and processes have been perfected to such a degree that we are no longer dependent upon Europe for these products.

With the floral oils and many essential oils, this is not the case, and we are now confronted with such problems as soil and climatic conditions rather than by chemical processes. There is considerable work being done at the present time to perfect the cultivation of many of these products. South America is contributing toward the solution of this problem, and it is believed that after the war Brazil will be one of the leaders in the production of many of these materials.

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A. G. Spilker, who many will remember as a manufacturers' representative in Chicago for a great many years, writes that he is still operating his walnut grove "in this wonderful state of California where I like it very much and hardly believe anyone will ever succeed in getting me to leave here to again live in the East or Middle West." Mr. Spilker also operates as a representative on the coast under the name A. G. Spilker & Sons, Danville, Calif. Los Angeles office 1709 West 8 St., that city.

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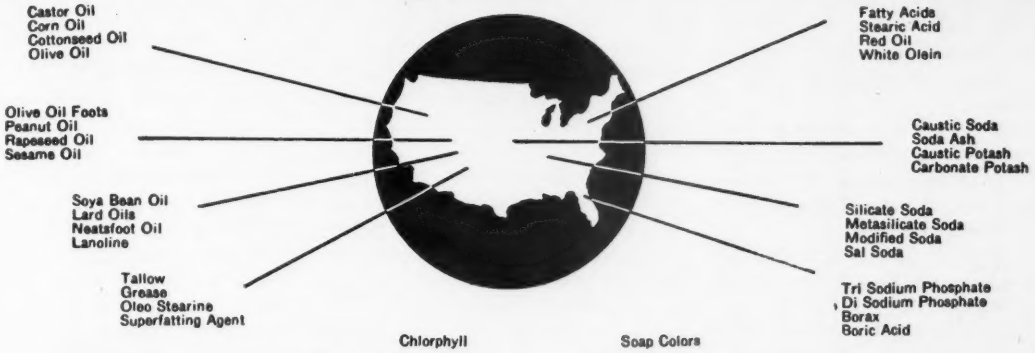

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ISOPROPYL ALCOHOL ODOR

With ethyl alcohol restrictions likely to be in effect for some time in the future, and isopropyl alcohol supplies rather plentiful for this industry, manufacturers of cosmetics are turning in increasing numbers to isopropyl alcohol as a partial or complete substitute for ethyl alcohol. At least two manufacturers of leading hair preparations, and at least one large manufacturer of an after-shave have taken this step.

Since isopropyl alcohol possesses a somewhat different odor than ethyl alcohol, it is natural that a perfume problem should arise as the result of the substitution. Manufacturers of isopropyl alcohol are investigating the possibility of lessening or improving the odor of this alcohol by improved refining processes. Also the essential oil and aromatic chemical manufacturers are producing products that will remove the objectionable odors present in isopropyl alcohol or will neutralize or cover them.

One of the products offered for use was composed of salts and inert powders. This product was mixed with the isopropyl alcohol but did not dissolve in it. After the product had been in contact with the isopropyl alcohol for sufficient length of time, it was filtered out of the alcohol. This product removed the objectionable aldehydes and ketones and thus reduced and improved the odor of the alcohol. However, this product was not satisfactory in that it could only be used by manufacturers with real mixing and filtering equipment. Also the operation was a rather lengthy one and took up the time of both equipment and workers.

The more satisfactory type of product is one that dissolves in the isopropyl alcohol, adding to it pleasant aldehydes and ketones that will neutralize the objectionable features of the odor of isopropyl alcohol and will also have a tendency to change the odor to that of the ethyl alcohol type. Some of these products are wholly neutralizing in effect. Others swing it somewhat in the direction of ethyl alcohol, and others swing it in the direction of some definite odor, such as violet.

Doubtless as time progresses and more manufacturers swing to isopropyl alcohol, these odor neutralizers will be improved and more types will be offered. It is essential that these neutralizers do not interfere with the use of the perfume compound that is normally added to the product.

PERFUME SUBSTITUTION

One of our readers writes us as follows:

"A big executive of one of the large steel companies once asked an essential oil man the following question: 'Why is it that I can buy a four ounce bottle of lilac, or a hair tonic scented with rose at $1.00 a bottle when it requires a ton of roses to make one pound of rose oil?' Naturally the steel executive was of the opinion, as most laymen are, that perfumes and toilet waters are made from the flowers essences only. But when the essential man had finished his explanation, it was plain to the steel executive that a vast new field had been created by the perfumers in simulating flower oils by use of essential oils, their derivatives, and aromatic chemicals.

"Most people do not realize that there is no such thing as absolute oil of lilac, and that after years of research, the perfumer finally developed a replica of the flower scent. In its formulation many products were necessary, such as terpineol from pine oil, hydroxycitronellal from Java citronella oil, oil of ylang ylang from the Bourbon Islands, and indol which is a disagreeable smelling product of coal tar origin. The usefulness of these products was determined not by chemical procedure but by trial and error, and by sense of smell. However, the chemistry played an important role in the development of aromatics and derivatives from essential oils, which, when judiciously used, were pieced together like a jigsaw puzzle to develop a finished flower scent.

"The war has caused a new search for substitutes where the natural oils are unobtainable. An outstanding example of this is the replacement of natural Italian bergamot oil by imitation bergamot oils. This is only one of the many changes which have been necessary. But through the ingeniuty of the perfumer and the manufacturer, it has been possible to supply most of the required materials and thus overcome the serious shortages that prevail as the result of our inability to obtain a large part of the natural products from many parts of the world."

FLAVORS IN SNUFF

Manufacture of snuff constitutes one of the most complicated of all tobacco processes, and many aromatic products are used in its manufacture. At various stages of manufacture different lots and qualities of tobacco are blended and flavoring and scenting ingredients are added. The scenting is done with musk, bergamot oil, lavender oil, attar of rose, tonka beans, cloves, orange flowers, jasmine, and bitter orange oil. The fine art of snuff making consists of blending to suit individual preferences.

Incidently, snuff output in 1942 reached an all-time high of 41,160,926 pounds, an increase of four per cent over 1941, and a staggering figure when compared with the 80,000 pounds produced in 1790. While snuff production has gained 500 times since 1790, population has increased from about 10 million in 1790 to 135 million, or only about 14 times.

FIXA

MUSK

MUSK TONQUIN GRAIN EXTRA
TINCTURE MUSK POD (EMPTY)
TINCTURE MUSK TONQUIN GRAIN
MUSK TONQUIN ARTIFICIAL F.B.
TINCTURE MUSK TONQUIN ARTIFICIAL
ARTIFICIAL MUSK POWDER No. 13975

CASTOREUM

CASTOREUM CANADIAN
TINCTURE CASTOREUM CANADIAN
CASTOREUM ABSOLUTE F.B.
CASTOREUM ARTIFICIAL F.B.

PROPER fixation of its fragrance is just as important to the finished perfume as is the creation of a sales-compelling scent. And since fixation involves the persistent and uniform character of the odor, it is obvious that careful selection and reliability of raw materials employed for this purpose are factors that bear directly on the product's continued success.

Unfortunately, native sources of most animal fixatives are notoriously indifferent

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TIVES

AMBERGRIS

AMBERGRIS GRAY EXTRA
TINCTURE AMBERGRIS
AMBERGRIS ARTIFICIAL F.B.
TINCTURE AMBERGRIS ARTIFICIAL
AMBREINE POWDER No. 13972

M

CIVET

CIVET ABYSSINIAN
TINCTURE CIVET
CIVET ABSOLUTE F.B.
CIVET ARTIFICIAL F.B.
TINCTURE CIVET ARTIFICIAL
ARTIFICIAL CIVET POWDER No. 13971

to considerations of purity, cleanliness or quality. American buyers, therefore, prefer to trust to our more than seventy years' experience in the selection and evaluation of these materials than to rely upon less qualified sources. They consider our full guarantee of purity as an absolute measure of protection.

Many buyers have found, too, that our artificial duplications of these fixatives, either in the convenient powdered form, or in liquid and semi-solid concentrations or finished tinctures, offer results comparable to, and in some respects, superior to the costlier and, at times, unavailable fixatives of natural origin. We believe an examination of these artificial substitutes will provide convincing proof of their economy and close fidelity to the top grade natural fixatives they are intended to replace.

If you are interested in any of the genuine or artificial fixatives listed above, write us now for further particulars and current prices.

BACKGROUND VALUES . . . a PART of the product, APART from the

RIGHT down the line, from raw material to finished, packaged product, cleanliness and good order dominate the handling of our products. Essential oils are carefully centrifuged to remove every trace of foreign substance. Containers are thoroughly washed and dried before using. Glass bottles are blown out individually with clean, fresh air to insure complete removal of dust and other particles. Filled bottles are capped with an exclusive tamper-proof top to provide absolute protection and purity of contents after leaving our plant. All of this is done under controlled conditions of atmosphere and temperature ideally suited to the handling of delicate flavors and essential oils, and in a plant that is spic and span even to its farthest corner. Truly, these are Fritzsche fetishes—*cleanliness* and *quality;* what is more, they're both a PART of Fritzsche products, APART from their price. Use them and be *certain* of the *best!*

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TASTE OF SYNTHETIC MENTHOLS

Experiments were carried out to determine the differences in taste among *neo*-menthol, *iso*-menthol, *neo-iso*-menthol, and *dl*-menthol. *Neo*-menthol and *iso*-menthol are reported to be unpleasant and slightly burning. A very slight cooling effect after some delay is reported, and the taste is not persistent in the case of *neo*-menthol, while the taste in the case of *iso*-menthol is persistent. *Neo-iso*-menthol is classed somewhere between its two components with a relatively non-persistent taste. *Dl*-menthol is described as having a peppermint-like taste, which is clean, cooling, and refreshing. W. E. Huggett. Quart. J. Pharm. Pharmacol., 15, 1942, 218-27.

Oil of Wormseed

(Continued from page 431)

between the two titrations represents the iodine liberated by ascaridole. Each cc. of tenth-normal sodium thiosulfate is equivalent to 0.00665 gm. of $C_{10}H_{16}O_2$.

It is to be noted that the length of time which the mixture of potassium iodide, hydrochloric acid, acetic acid, and wormseed oil is permitted to stand before titration is not specified in this procedure. This period of time is of utmost importance: *exactly five minutes should be permitted to elapse before titration.* This unfortunate omission should be rectified in the next supplement of the U. S. Pharmacopoeia to be issued.

If all conditions as outlined are rigidly followed, this method gives analytical results that are reproducible and relatively accurate for normal American oils. If, however, the ascaridole content is abnormally low, the results will not be sufficiently accurate. Experiments are being conducted in our laboratories to determine the point at which the method becomes inaccurate. Pauley[1] contends that the empirical factor, 0.00665, is actually too high, since he obtained a value of 110 per cent. for a redistilled ascaridole fraction using this factor. This is in accord with our findings; assays on a sample of ascaridole highly purified by distillation (b.p. = 78° to 80° C./3 mm.; $D_{15°} = 1.011$; $\alpha_D = -3°40'$; $N_{D20°} = 1.4739$) gave analytical results well above 100 per cent. Further experiments are now being carried out to establish a more accurate empirical factor.

Since this method is based on the oxidation of potassium iodide by the peroxide ascaridole and the subsequent determination of the amount of free iodine, additions of oxygenated constituents should not increase the apparent ascaridole content unless the added compound is capable of oxidizing the potassium iodide under the experimental conditions. Furthermore, since the liberated iodine is capable of being absorbed by unsaturates in the oil, it is very important to maintain the low temperatures as indicated in the procedure, to keep this secondary reaction at a minimum.

Results of a series of determinations carried out by us, using the techniques of both the U. S. P. XI and the U. S. P. XII, are given in the table below. It is interesting to note that commercial p-cymene itself gives an apparent ascaridole content of 15 per cent.; also the fact that oils diluted with p-cymene to reduce the ascaridole content give results that are relatively too high.

	Ascaridole Determination	
Material	*Method USP XI*	*Method USP XII*
Oil Wormseed	54.7%	76.4%
Oil Wormseed 75% p-cymene 25%	33.8%	59.2%
Oil Wormseed 50% p-cymene 50%	23.4%	42.6%
Oil Wormseed 25% p-cymene 75%	10.6%	26.40%
Para Cymene	0.10%	15.0%
Oil Eucalyptus 80 '90	48.7%	16.90%
Oil Eucalyptus 50%	50.2%	42.52%
Oil Wormseed 50% Eucalyptol	99.2%	16.99%

The Tentative Method for the Determination of Ascaridole as outlined in the A. O. A. C., Fourth Edition,[1] proves too cumbersome for rapid commercial analyses and control. This method, developed by Paget[2], involves the reduction of ascaridole by titanium trichloride. It requires that the solution be protected from atmospheric oxygen; this entails storage of the solution under an atmosphere of hydrogen, and tritations under an atmosphere of carbon dioxide. According to the experiments of Reindollar[3], the results obtained by this method are fairly concordant with those obtained by the method of Cocking and Hymas. The Paget method does not appear in the Fifth Edition of the A. O. A. C.

The determination of the ascaridole content by a distillation technique is not to be recommended for routine analyses, since the ascaridole is so unstable that the oil is apt to decompose with explosive violence should the temperature not be carefully controlled.

Dodge[4] has suggested the use of a solution of sodium bisulfite to determine the ascaridole content of wormseed oils. This technique is not suitable for commercial use because of the difficulty of determining the exact end point and the length of time required for a determination.

In spite of its recognized deficiencies, the method of Cocking and Hymas, now official in the U. S. P. XII and the B. P., is probably the most useful for commercial analytical control laboratories.

The determinations of specific gravity, optical rotation, refractive index, and solubility in 70 per cent. alcohol offer no difficulty to the analyst. In general, the higher the ascaridole content of an oil, the higher will be the specific gravity and the better the solubility. However, old oils will also show high gravities and good

(Continued on page 459)

1. *Pharm. Arch.* 7 (1936), 9.

1. *Assn. Off. Agr. Chem. Jour.*, 4th Ed. (1935), 598.
2. *Analyst* 51 (1926), 170.
3. *Op. cit.*
4. *Drug and Cosmetic Industry* 46 (1940), 414.

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ADVANCING THERAPY

DENTAL PRODUCTS

Several new dental formulas are given the Journal of the American Dental Association (30:3, 267-273, 1943) by Dr. J. Lewis Blass, Assistant Professor of Periodontia at College of Dentistry of New York University. Dr. Blass is both a pharmacist and a dentist. The formulas are:

Topical Anesthetic

Dr. Blass suggests the following formula for a topical anesthetic:

Benzocaine	7.5
Oil of peppermint	6.0
Phenol crystals	3.5
Ethylene glycol, *q. s.*	50.0

The benzocaine, oil of peppermint, and phenol crystals are mixed in a flask and heated until the benzocaine dissolves, and sufficient ethylene glycol is added to make 50 cc.

Pumice-Bentonite Paste

Saccharin, soluble	0.25
Bentonite	13.00
Oil of cinnamon	0.25
Oil of peppermint	1.50
Calcium carbonate, U. S. P.	20.00
Sol. amaranth, 10%	1.00
Pumice flour	64.00

Mix, make a powder and place in No. 000 capsules.

Salt-Lime Dentifrice

Menthol	
Saccharin, *aa*	0.6
Calcium oxide	12.0
Methyl salicylate	2.0
Sodium chloride, fine	500.0

Sig.: One-third teaspoonful in a glassful of water as a mouthwash-dentifrice.

Sodium Oleate Dentifrice

A sodium oleate dentifrice leaves a film of sodium oleate on tooth surface. The film is broken down by saliva and leaves a thin coating of oleic acid on teeth. Such a dentifrice is useful in tooth brush abrasion, when special protection of tooth surface against acid attack is desired, or in cases of great susceptibility to dental caries.

Sodium oleate	6.0
Saccharin	0.2
Oil of clove	1.0
Oil of cassia	0.5
Oil of peppermint	0.5
Alcohol	50.0
Glycerin	25.0
Water, *q. s.*	100.0

Sig.: Use 10 drops full strength on a dry brush as a dentifrice.

Epithelial Solvent

Epithelial tissue sometimes interferes with pocket healing and a caustic solution is useful to dissolve it, permit its removal and stimulate connective tissue growth.

Sodium sulfide	70 grains
Sodium carbonate, 1 H_2O	20 grains
Water, *q. s.*	1 ounce

OINTMENT BASES

Jack Pavone, pharmacist of New York State Institute for Study of Malignant Diseases, Buffalo, describes two types of washable ointment base used for application of menthol, procaine hydrochloride, and sulfonamide drugs to dermal areas which has become extremely sensitive. The two forms are:

	Cream	*Emulsifier*
Sodium lauryl sulfonate	50.0	5.0
Cetyl alcohol	125.0	12.5
Triethanolamine	125.0	5.0
White petrolatum	250.0	....
Stearic acid	....	11.0
Cocoa butter	100.0	10.0
Distilled water	800.0	125.0

Cream: Melt sodium lauryl sulfonate and cetyl alcohol on water bath, heat for ½ hour with constant stirring. Add triethanolamine and stir, then add petrolatum and stir for 15 minutes. Add water in small portions with constant stirring until homogeneous. Add cocoa butter and stir until it liquefies and is thoroughly mixed. Remove from water bath and immerse in cold water. Stir vigorously until smooth, white cream. The faster the mixture is stirred the smoother and whiter the cream. The cream will absorb up to 60 per cent of water and retain a firm consistency.

Emulsifier: Melt sodium lauryl sulfonate, cetyl alcohol and cocoa butter on water bath. Add stearic acid and stir until liquefied. Mix triethanolamine and water in graduate and add to liquefied mixture in small quantities with constand stirring. When thoroughly mixed, remove from water bath, immerse in cold water and stir until mixture congeals.

The following formulas illustrate the use of these two bases:

Sulfathi-Urea Cream

Sulfathiazole	5.0
Urea	10.0
Chlorbutanol	0.1
Distilled water	25.0
Nongreasy cream, *q. s.*	100.0

The urea is dissolved in the water and filtered. The sulfathiazole and chlorbutanol are triturated in dry mortar and enough of urea solution added in small portions to make a paste. Add about 30 Gm. of nongreasy cream and triturate until smooth. Add balance of urea solution, triturate and add enough nongreasy cream to make 100 Gm. Triturate to smooth cream. Do not use metal utensils in preparing or storing.

This preparation is used in burns, as postoperative dressing, and in necrotic areas and streptococcic and staphylococcic infections. It may be made with 10 per cent of sulfathiazole, with or without the urea. Sulfanilamide or sulfadiazine may be used in place of sulfathiazole.

Sulfathiazole Suspension

Sulfathiazole	5.0
Chlorbutanol	0.2

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These qualities account for the pharmaceutical trade's preference for the PEDER DEVOLD Brand.

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SPERMACETI CERESINE YELLOW BEESWAX
RED OIL COMPOSITION WAX STEARIC ACID

Distilled water	35.0
Emulsifier, *q. s.*	100.0

Triturate sulfathiazole and chlorbutanol in dry mortar and sufficient water in small portions to make smooth paste. Add about 30 Gm. of emulsifier triturate well, add balance of water and triturate. Add sufficient emulsifier to make 100 Gm. and triturate well. *Journal of American Pharmaceutical Association, Practical Pharmacy Edition, (4, 1, 31, 1943).*

CAFFEINE FROM FISH WASTE

Guanine can be obtained from contaminated wastes of the fish industry by washing the scale mass, centrifuging and treating with 5 per cent hydrochloric acid solution for 30 to 40 minutes at 100° in boilers with a steam jacket. The filtered guanidine-hydrochloric acid solution is cooled and the residue washed with alcohol and dried. Caffeine can be obtained by a nitration and methylation of guanine. *S. Martyshkin and A. Ivanov. Rybnoe Khoz. 1940, No. 5, pgs. 24-25.*

SULFATHIAZOLE AS GONORRHEA PREVENTIVE

Sulfathiazole administered by mouth appears to be an effective preventive against gonorrhea and chancroid, according to Captain James A. Loveless and Colonel William Denton. M. C., U. S. A., in J. A. M. A. March 13. The test group consisted of a company of 1,400 negroes and the control group of approximately 4,000 Negroes from the same post. In summarizing the report, the authors say that "A company of approximately 1,400 Negro troops was given sulfathiazole prophylaxsis of 2 grams before leaving the fort on pass. Those taking station prophylaxsis received no further drug. All others received 4 additional grams on returning to the fort and 2 the next morning.

"In the company there has occurred a phenomenal disappearance of gonorrhea and chancroid. Excluding the 'fail res' not under the influence of the drug at the time of exposure, the gonorrhea rate dropped to a level of 8 per thousand yearly as compared with 171 per thousand in the control group, and the chancroid rate dropped to 6 as compared with 52."

SULFA CHEWING GUM

Sulfa chewing gum as a possible remedy for severe sore throats is announced by Dr. John H. Arnett, Dr. Wesley W. Spink, Dr. Ruth Boynton, and Dr. Suzanne Agnew, of Episcopal Hospital, Philadelphia, and University of Minnesota Medical School. The product is a paraffin block of suitable size for chewing, in which sulfadiazine or other sulfa drug has been mixed when the paraffin was melted. Use of the product by patients with acute pharyngitis or tonsilitis caused by streptococci has not been tried long enough to tell how effective this method of application of sulfa drug might be. It was found, however, that when patients chewed the product, "remarkably high concentrations" of free sulfadiazine were maintained in the saliva. This would have the effect of getting the drug directly to the throat and tonsils where it might exert its curative effect without the disagreeable side effects which sometime occur when given in moderate dosage in capsules.

VITAMIN B FOR LEUKEMIA

Further vitamin cures controlling other diseases just as now control scurvy, pellagra, and rickets, are predicted by Prof. C. A. Elvehjem, of University of Wisconsin, based on a study of the 12 or more factors of the B complex. Lack of the newest factor, folic acid, may be the cause of a blood disorder, a sort of white blood cell anemia, occasionally developing in patients under sulfa drug treatment and also sometimes without such treatment. The same condition developed in rats following treatment with sulfa drugs and it also develops in monkeys deprived of the vitamin. The reason rats get the disease seems to be that the sulfa drugs stop the growth of microorganisms in the rat's intestinal tract which normally manufactures some of the vitamin B factors. In both monkeys and rats the white blood cell anemia, though induced by diet in one case and by sulfa drugs in the other, can be prevented by folic acid. In humans, the condition may develop following 20 days of sulfa drug treatment because the patients had been on short rations of folic acid and could not stand further depletion by the drug of their reserve supply of this vitamin.

GLYCERIN IN THE N. F.

A second supplement to N. F. VII has been announced due principally to the curtailment of glycerin supplies. Permitted changes in formulas are:

Elixir of Iron and Strychnine: Glycerin omitted.

Elixir of Iron and Strychnine Phosphate: Glycerin omitted.

Elixir of Pepsin: Glycerin cut from 200 cc. to 120 cc., 45 gm. sucrose added.

Elixir of Pepsin Compound: Glycerin cut from 250 cc. to 120 cc., tincture of cudbear omitted, oil of orange increased from 2 cc. to 14 cc., 70 gm. sucrose added.

Elixir of Pepsin and Rennin: Glycerin cut from 150 cc. to 120 cc. ,17 gm. sucrose added.

Elixir of Terpin Hydrate: Glycerin cut from 400 cc. to 200 cc., syrup omitted, alcohol increased from 450 cc. to 475 cc.

Alkaline Aromatic Solution: Glycerin cut from 100 cc. to 50 cc.

Mixture of Rhubarb and Soda: Glycerin cut from 200 cc. to 160 cc.

Syrup of Ammonium Hypophosphite: Glycerin cut from 300 cc. to 50 cc., dextrose omitted.

Syrup of Calcium Lactophosphate: Glycerin cut from 300 cc. to 50 cc., orange flower water and dextrose omitted, 650 gm. of sucrose added.

Syrup of Hypophosphites: Glycerin cut from 300 cc. to 50 cc., dextrose omitted, 600 gm. of sucrose added.

Syrup of Hypophosphites Compound: Glycerin cut from 300 cc. to 50 cc. quinine and dextrose omitted, 700 gm. of sucrose added.

Syrup of White Pine Compound: Glycerin omitted, sucrose increased from 625 gm. to 700 gm.

Pills of Aloe and Mastic: Rose omitted.

SULFA DRUG FAILURE

Failure of sulfa drugs in some cases has been traced to increased production by the germs of an anti-sulfa drug chemical, namely para-aminobenzoic acid, which was recently included as a member of the vitamin B complex. Experiments leading to this conclusion in the case of Staphylococcus aureus are reported by Dr. Maurice Landy, Dr. Newton W. Larkum, Dr. Elizabeth J. Oswald, and Dr. Frank Streightoff, of Army Medical School. These germs were exposed to increasing concentrations of sulfathiazole and produced germ offspring resistant to the drug and which produced 70 times as much p-aminobenzoic acid as the parent, drug sensitive strains. Germs of cholera, dysentery, and pneumonia may acquire resistance to sulfa drugs without producing more of this chemical.

PLYMOUTH WAXES *For* CREAMS

PLYMOUTH Genuine Spermaceti U.S.P.

This Spermaceti should not be confused with inferior hydrogenated sperm oils which are sometimes offered as Spermaceti The Plymouth Brand is the finest which can be produced and is produced from Genuine Sperm Oil by the cold pressing method. It is a very white crystalline wax containing no free oil, has a very low Iodine number and is free of any offensive odors.

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MARCH MOVEMENTS

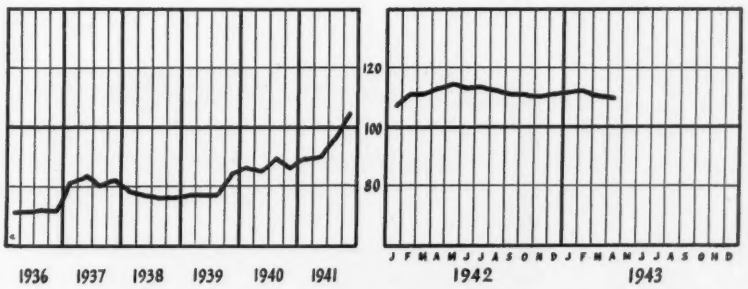
Up

Anise oil 5c	Clove oil 10c	Menthol natural 50c
Gum arabic sorts 2c	Elm bark 1c	Olive oil edible 10c
Arnica flowers 10c	Eucalyptol 15c	Senna Alex. 3c
Benzoin gum Sumatra 10c	Eucalyptus oil 2c	Stearic acid 1c
Cassia oil 25c	Kamala 5c	

Down

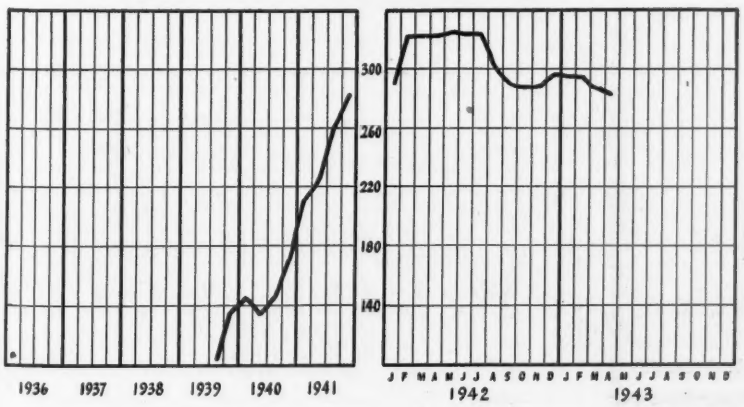
Angostura bark 1c	Elder flowers 1c	Saffron Valencia $1.50
Belladonna leaves 35c	Ergot 5c	Stramonium leaves 1c
Cajuput oil 35c	Gentian root 2c	Vanilla beans Bourbon $1.50
Canaga oil native 15c	Heliotropin 25c	Mex. cuts $1.50
Rectified 15c	Henbane leaves 5c	Mex. whole 50c
Dandelion root 2c	Henna leaves 1c	

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index advanced to 112.3 from the previous 111.9. Menthol rose 50 cents a pound to $14 and stearic acid was 18 cents representing a 1 cent advance over previous quotations. Restrictions on the use of glycerin in cosmetic preparations sent manufacturers scouting for possible substitutes. Propylene glycol as such a substitute came in for considerable attention. Present production is not likely to be such as to take care of requirements.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index declined to 285.7 from the previous 288.7. Belladonna was sharply lower at $1.40 from the previous quoted figure of $1.75 a pound. Ergot also declined, the new figure of $1 a pound representing a reduction of 5 cents. Gentian was also 2 cents lower at 48 cents a pound. This is the third consecutive month in which the botanicals group of index commodities showed a decline.

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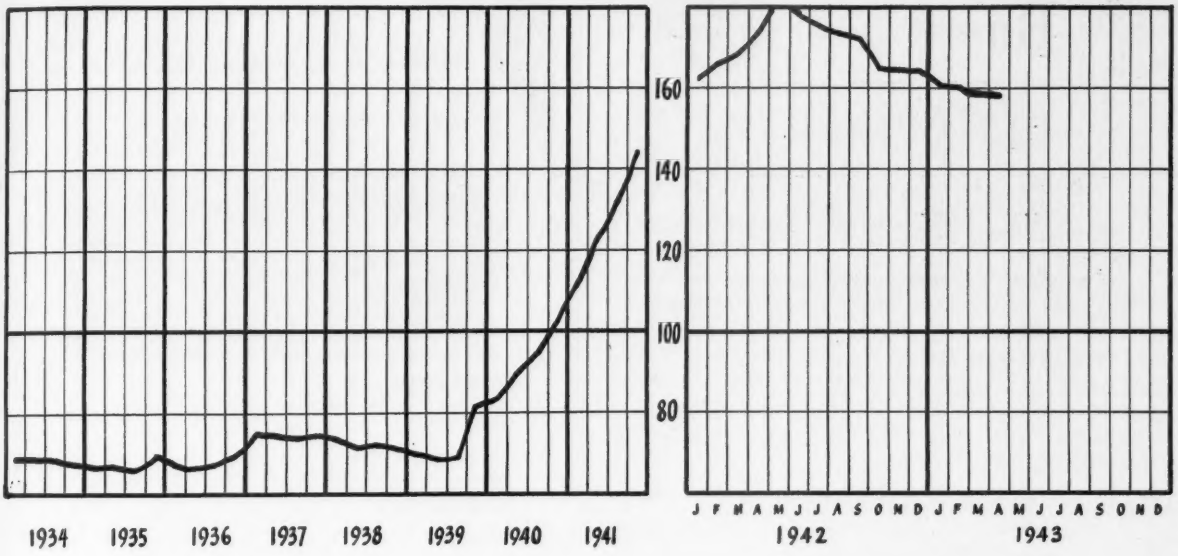
50 Raw Materials—Weighted Price Index. 1926=100



The price index of fifty commodities for March, 1943, advanced fractionally to 159.7 from the previous 159.1. The general tendency during the month was toward higher price levels for all commodities. The medicinal chemicals group, the essential oils group, and the cosmetic raw materials group all showed a higher index figure for March. The botanicals, however, showed a lower figure primarily because of a rather sharp decline in the price of belladonna.

• Prices quoted in this section were current on the first of this month.

CAFFEINE

The contemplated order of the Office of Price Administration setting dollars and cents ceiling prices on caffeine and other fine chemicals has been issued.

Provisions of the regulation which had been the subject of a conference with members of the industry in New York a number of weeks ago have been broadened to include salicylic acid, ascorbic acid and citric acid. These products, which are now subject to separate price ceilings regulations, are being grouped with the new order for administrative purposes.

Details of the regulations in its final form are not available but it is understood that among other things it will contain provisions sharply reducing the wholesale markup on sales of the chemicals in large quantities.

WAXES

A Wax Importers Industry Advisory Committee of 10 members has been formed, the War Production Board announced recently. Wells Martin, deputy chief of the Protective Coatings Section of the Chemicals Division of the WPB, acted as Government presid'ng officer of the committee's first meeting held in Washington, February 15.

Problems of wax importers were discussed, most important being the scarcity of sailing from ports where stocks are collected. Until the shipping shortage is relieved, present stocks as well as imports must be conserved for essential needs in the war effort. Some less essential uses may be limited.

Carnauba and ouricury waxes, which originate in Brazil and are important in protective coatings, as well as a large portion of the requirements for beeswax, must be imported. The committee discussed handling of import licenses and scheduling of sailings.

MENTHOL

In some quarters it is feared many menthol products may completely disappear due to the inability of manufacturing consumers to secure the basic material. With supplies from the Far East cut off by the war, about the only future source of menthol will be American peppermint oil. The new crop of oil will not be ready until about September. OPA ceilings on both menthol and American peppermint oil have tended to complicate matters, it is said, and unless oil prices are allowed to advance, and farmers encouraged, the acreage may not be sufficient to meet the heavier demand that is likely to be noted.

VANILLA BEANS

Prices on vanilla beans have fallen below ceilings for the first time since they were established in October. Bourbon vanilla is now $8.50 a pound, Mexican cuts $8.50 a pound, and Mexican whole beans $10.50.

The demand is reported as steady but more beans are available in the open market. Tahiti beans are arriving quite freely. The 28 tons of Bourbon beans from the British Ministry of Supplies have been graded and distributed, but the latest shipment of 30 tons have not as yet been touched.

MERCURY

The Financial Post, Toronto, reports that "one corner of the veil hiding the

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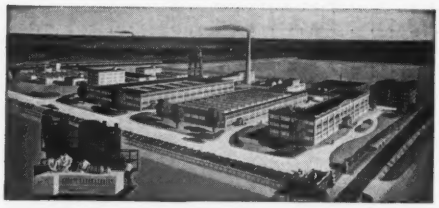

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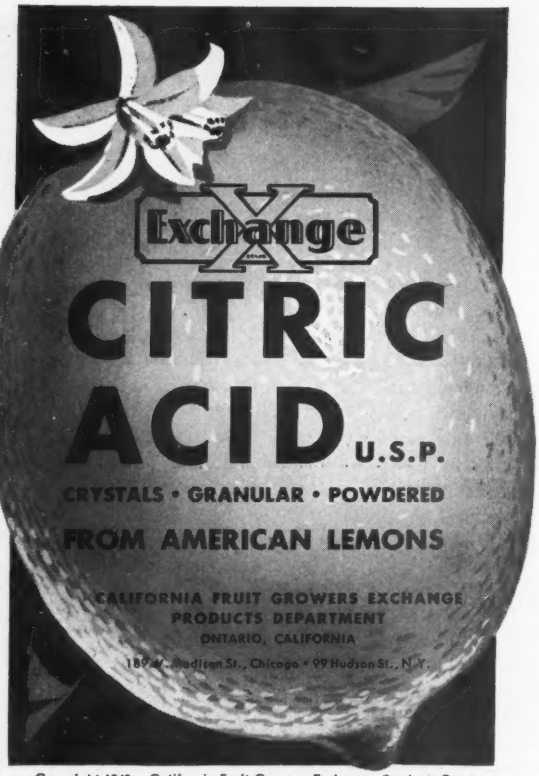

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wartime activities of Consolidated Mining & Smelting Co. was lifted when an agreement with the Canadian Government under the Income War Tax and the Excess Profits Tax Act was tabled in the House of Commons. The agreement, providing $600,000 of tax credits for capital expenditures of a similar amount, calls for production of an extra 10,000 flasks of mercury for shipment to the United States. The object is to provide Canada with an extra $1,860,000 of U. S. dollars and the United States with a mercury reserve."

Dated last September, the agreement calls for delivery of 10,000 flasks in 1942 and 1943, allows the firm to deduct $45 from its tax bill for every flask exported, provided the total amount does not exceed $300,000 in 1942 and $600,000 altogether, it was pointed out.

BISMUTH

To conserve the supply of bismuth chemicals for which there is an increased demand this year, these chemicals were put under allocation by WPB through issuance of General Preference Order M-295. Bismuth chemicals are required for medicine and for agricultural purposes such as controlling blue mold in growing tobacco.

Restrictions on delivery and use of bismuth chemicals are effective April 1. The order defines these chemicals as any chemical compound of bismuth in crude or refined form including bismuth subcarbonate, bismuth subnitrate, bismuth subsalicylate, bismuth nitrate, bismuth hydrate and sodium bismuthate The term does not include standard dosage forms such as tablets, capsules, ampoules and liquid preparations.

Anyone seeking authorization to accept delivery or to use bismuth chemicals during any month beginning with April must file application on Form PD-600 by the 15th of the preceding month. A producer or distributor seeking authorization for delivery beginning with April must file application with WPB on Form PD-601 before the 20th of the month preceding that in which delivery is planned.

Exemptions from authorization requirements are made for delivery, acceptance or use of not more than 25 pounds of any bismuth chemical in any month. Also exempted are delivery or acceptance of bismuth chemicals packaged in containers of one pound or less for resale to retail druggists or delivery to or acceptance of delivery by retail druggists of bismuth chemicals so packaged.

FISH OILS

Refined fish oils were tighter during the current trading period, with tank lots virtually unobtainable. Buyers are reported inquiring actively now that refiners cannot supply them except sparingly. Meanwhile, it is feared the market will continue very tight even when the new season opens because there is a report that the industry will have to get along with less boats than in the season just ended.

Various refiners are said to have asked the Government to release some of its stock pile of crude oil for the production of refined oils to be used on Government contracts. As far as can be learned all such requests have been turned down.

It was stated in the trade that the Government would not release any oil since it feared the reserve supply would be needed much more acutely in the new season. The belief has been expressed that the Government might want to get some of its stock pile processed to avoid deterioration. However, it was pointed out that the oil may be low enough acid so that it will keep for a long time without showing serious deterioration.

Production of shark-liver oil with vitamin-A potency of 23,500 English units per gram could be expanded enormously in Cuba, according to a local fishing company located at Marianao.

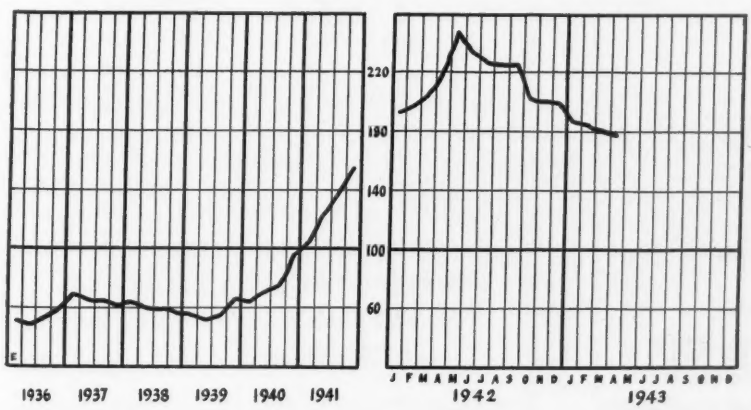
The catch has averaged from 107 sharks totaling 17,269 pounds in one month to 233 sharks weighing 41,565 pounds in another, and the take could be increased considerably, it is claimed. The Cuban firm is desirous of marketing the oil in the United States.

GLYCERINE

With the ban placed on civilian uses of glycerine, consuming manufacturers are in some cases encountering a serious problem in locating substitutes. Hope is being held, especially in official quarters in Washington, that a sufficient amount of propylene glycol can be manufactured and made available for toilet goods and cosmetic goods uses to compensate at least in part for the lack of glycerine. Although there appears nothing definite at this time, there remains the possibility that additional supplies of propylene glycol may be made available within a month or so.

Experiments are being made in some trades with gum karaya and other articles, but in the case of karaya, certain grades have already become scarce, and licenses, according to importers, do not permit sufficient importations to meet all requirements.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index advanced to 184.7 from the previous 183.7. Anise oil was up 5 cents a pound to $2.85; Cassia rose 25 cents to $10.50 a pound; Clive oil was 10 cents higher at $1.75, and eucalyptus rose 2 cents to $1.02. The only decline in this commodity group was cananga which dropped 15 cents to $11.85 a pound. This represents a reversal in the trend for essential oils which had been on the easy side for some time.

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NUX VOMICA

The new season's crop of nux vomica (November 1942-February 1943) began to appear on the Indian market late in January. Collection of the crop was expected to be completed by February, and marketing activities will continue until July.

Annual production of this jungle drug is estimated at 1,500 long tons. The 1942-43 crop, however, will be short, owing to the use of nux vomica trees for timber in certain parts of South India during the last 6 months and cyclone damage to blossoms and fruit in the Calcutta area in October, 1942.

Stocks of nux vomica, both at Calcutta and Cochin, are reported small. In South India (the most important source of the drug) Cochin stocks amounted to between 100 and 150 long tons in January, and upcountry stocks totaled some 600 tons. About 50 tons were awaiting shipment at Calcutta.

Exports from South India during the period August 1942 to January 1943, trade sources say, varied between 600 and 700 tons—about half the amount shipped during the corresponding period of the preceding year.

The market price of nux vomica in the same 6 month period ranged from 15 rupees ($4.50) to 20 rupees ($6.01) per hundred weight. Brisk demand from the United States and a short 1942-43 crop resulted in a high range of 23 ($6.90) to 25 rupees ($7.50) at the end of January.

Although shipping difficulties have adversely affected the market, disposal of the crop seems well assured. Nux vomica is a strategic material, and it is expected that prices and demand will continue at a good level for some time.

ALCOHOL

The rapidly changing outlook in the nation's grain supply may force the War Production Board to abandon the remaining portion of its extensive program to increase the production of grain alcohol for war uses.

The WPB recently announced the selection of five sites in the grain-belt states for alcohol-from-grain plants and opened negotiations with prospective lessees for their operation. This construction program has been undertaken when agricultural authorities are predicting that the time may soon come when livestock feeds; including wheat, must be conserved for human consumption and when farmers are not releasing enough corn on the market to meet the needs of the present grain distilleries.

Last September the Baruch committee, in its comprehensive report on the rubber situation, recommended the current grain-alcohol expansion program. Butadiene, a basic ingredient in the huge synthetic rubber program; is produced from petroleum, natural gas, acetylene or alcohol. The Senate farm bloc, having in mind the perennial wheat surplus in this country, successfully insisted that the WPB expand production of grain alcohol to meet the anticipated butadiene needs.

But the Baruch committee made its grain-alcohol recommendations on the specific assurance of Claude R. Wickard, Secretary of Agriculture, that no concern need be felt than an expansion of alcohol production from grain would interfere with the country's grain supply. After all food requirements that "can be anticipated now are met," the report pointed out, "there still will be upward of 1,250,000,000 bushels of wheat left on this continent."

That was last September. Within the last month Secretary Wickard told a Senate committee that Americans would have to start eating the feed grains rather than feeding them to animals and eating the animals. Canadian agricultural statisticians have been more blunt about the vanishing grain surpluses than our own officials, anticipating the eventual disappearance of grain surpluses in North America. And Canada has a relatively larger wheat surplus than the United States.

For these reasons, it was learned, there is considerable sentiment in Washington for the abandonment of all attempts to augment further the production of alcohol from grain. A re-examination of other sources of butadiene may follow.

It is recalled by war-production officials how suddenly shortages have developed in the past in such materials as nickel, steel and copper where adequate supplies had been generally thought to exist.

A danger signal on the horizon may be seen in the heaviest winter grain movement in the history of the railroads. The grain is going into consumer channels, lend-lease, the armed forces and alcohol production. Congress, having authorized the allocation of 125,000,000 bushels of government owned wheat for feed purposes, is about to free another 125,000,000 bushels for the same use. Stock raisers, it is said, will feed 300,000,000 more bushels of wheat to their stock this year than in 1942. The movement of grain recently has been greater than in the peak summer months last year.

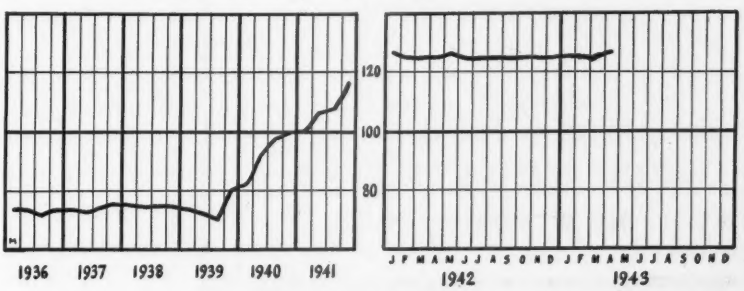
OLIVE OIL

As a result of the recent clarification of Amendment 23 to RPS 53 which officially states that all domestic olive oil sold in drums, barrels and large containers, whether by the producer or the primary distributor, must be sold within the ceiling price limits imposed f.o.b. producer's plant, primary jobbers are considering packing those quantities which they may have on hand.

Since the bulk of this year's crop has been sold, and at least 50 per cent of it to primary distributors, this proposed action is apparently the only out that primary jobbers have, trade observers point out.

The medicinal chemicals index advanced to 126.3 from the previous 125.1. This was caused by the advance of 50 cents a pound in the spot market price of menthol. Since there is no available supplies of natural menthol in the New York market, prices attracted little or no attention. It is said that as high as $20 a pound was offered but, of course, dealers could not accept such a bid as this item has a ceiling and besides, they have no goods.

15 Medicinal Chemicals—Weighted Price Index 1926=100



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Dyes in Modern Medicine

(*Continued from page 393*)

Filter and add:	
Boric acid	1.0 part
After two hours, add:	
Acetone	5.0 parts
Two hours later, add:	
Resorcinol	10.0 parts

The components and method of formulation are the same as those of Castellani's paint except that gentian violet replaces basic fuchsin.

It should also be mentioned that dye solutions, principally gentian violet, are likewise employed in the treatment of vulvovaginal mycosis.[11, 12, 13]

Intertrigo (chafing) can often become a severe condition with raw, tender oozing surfaces and the possibility of secondary infection is a constant danger. Treatment is slow and not always effective. Because the more advanced lesions resemble severe second degree burns, Tulipan[14] decided to try the tannic acid treatment, using a 5% spray. Relief was prompt and the treatment proved effective. On patients showing secondary infection, he used a 2% solution of brilliant green over the tannic acid layer or combined it with the tannic acid in an aqueous solution. Tulipan considers this therapy the most efficacious that he has ever used.

The treatment of burns has undergone many changes during the past decade[15] and the employment of dye-containing preparations may be considered one of the major advances in this phase of modern medicine. Back in 1929, Firor and Aldrich[16] instigated the gentian violet treatment, but it was not until 1933, in a report on the role of infection in wounds,[17] that the medical public was informed of the value of this dye treatment. The procedure, while a definite step forward, was not the full answer to improved burn therapy. Various methods were tried in order to get the advantageous infection-controlling properties of the dye while still retaining the desirable qualities of other methods.

Branch,[18] for example, combined the dye with silver nitrate. This produced a firmer, more rapidly drying eschar than was obtained with gentian violet alone; staining was reduced and the antiseptic properties appeared heightened. Others have used the dye solution as an adjunct to other procedures.[19]

In 1937, however, Aldrich[20] further improved the dye treatment of burns by introducing the so-called triple dye solution consisting of:

Crystal violet	45.0 Gm.
Neutral acriflavine	22.5 Gm.
Brilliant green	30.0 Gm
Water, to make	3000.0 cc.

The proportions have been varied from time to time by other workers and other minor modifications have been suggested but all partake of the advantages of the original triple dye solution which has found wide use

both in this country and abroad. The mixture is quite stable and stands storage for a long time without loss of efficiency It combines germicidal action against both gram-positive and gram-negative organisms. With a definite analgesic action, a protective eschar forms over the burned areas without destruction of healthy skin islands Control of infection is also greatly facilitated when this eschar is formed. However, its slower action and staining tendencies are considered a disadvantage by some. But, as pointed out by Harkins[21], in combination with silver nitrate it presents practically the same merits as the tannic acid-silver nitrate combination.

Triple dyes in water-soluble jelly bases are now available. However, the advantages of dyes have also been combined with other standard burn-treating agents to form new burn jellies. A case in point is a product devised and tested by Heggie and Heggie[22] in England, consisting of:

Tannic acid	20.0 per cent
Proflavine sulfate or methyl violet	0.1 per cent
Procaine	2.0 per cent
Glycerine-tragacanth base, to make	100.0 per cent

The base employed consists of:

Compound powder of tragacanth	2.0 per cent
Glycerine	10.0 per cent
Distilled water, to make	100.0 per cent

Quite recently, in a new E.M.S. Memorandum issued by the Department of Health for Scotland,[23] covering the treatment of burns, dyes are listed prominently as recommended agents. For treating burns of the respiratory passages, the following formula, made with brilliant green, was tentatively advocated

Glycerine	30.0 Gm.
Brilliant green	0.1 Gm.
Distilled water	70.0 cc.

Administered internally, certain dyes have found major uses as anthelmintics and as urinary antiseptics. They have also been tried with some success in the treatment of certain venereal diseases, more particularly gonorrhea. Given intravenously, there are some indications that dyes may be useful to combat infections dye to specific organisms.

Among the several drugs that have been employed to eradicate parasitic worms from the intestinal tract, gentian violet stands out as one of the most effective of anthelmintics. Faust[24, 25] calls this dye the only known specific for strongyloidiasis (round-worm infection). When properly administered in enteric-coated tablets, gentian violet is usually well tolerated and frequently eradicates the organism, though occasionally two or three courses of treatment may be required to effect a cure. However, excessive amounts of the dye may cause irritation and nausea, hence the need for controlled administration.

Gentian violet has also proven very effective in the treatment of oxyuriasis or pinworm infection, and is

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considered the treatment of choice from the standpoint of safety and efficacy.[26] Properly given, medicinal gential violet has proven to be about 90% effective in producing cures provided all infected individuals in the family or institution are treated simultaneously.[25] Even in children, where special precautions must be taken to prevent undesired side-effects, Miller and his collaborators[27] were able to report a high proportion of cures.

Not limited to intestinal parasites, however, gentian violet has also been found to be a specific for a species of Chinese biliary fluke.[24]

Many drugs have been advocated as systemic antiseptics for the treatment of urinary tract infections and dyes loom prominently among such preparations. However, like other drugs, certain dyes have been found less effective than other agents and the introduction of sulfonamides in this field of therapy will undoubtedly largely eliminate many more. Thus, methylene blue, which started off with such great promise finds but limited use today.[28] Barnes[29] cites Walther to the effect that pyridium and other azo dye therapy is useful in renal and prostatic infections, but of little value in cases of cystitis and urethritis. Effective in about 66% of cases, these dye products are recognized as useful adjuncts in urinary tract therapy.

The flavine dyes, such as acriflavine, are considered to be rather effective urinary antiseptics provided the urine is kept alkaline.[3, 28] Hence sodium bicarbonate is generally given simultaneously with acriflavine to promote its efficacy. However, this drug causes unpleasant symptoms in a fair proportion of cases and it must be given in suitably protected form to prevent nausea and catharsis. Davis and Sharpe[30] consider it to be particularly effective in acute infections of the urinary tract.

For gonorrheal urethritis in the male or female, neutral acriflavine solutions are employed as irrigating fluids. In the therapy of gonorrhea, a 1:1000 solution may be injected into the urethra, but if large quantities are employed for irrigation, it is advised that the strength be materially reduced.[3]

Dyes are sometimes injected intravenously for the treatment of patients with septicemia and localized infections that cannot be reached by any other route. The results observed after such administration may be partly due to the direct action of the dyes upon the responsible organisms and partly to the non-specific effects attributed to the colloidal properties of the dyes.[2] Since various dyes display a rather specific action against certain microorganisms, the selection of the most suitable agent often depends upon the type of germ present in the lesions. Thus, the intravenous injection of gentian violet has been recommended in the therapy of such affections as staphyloccal septicemia and other systemic infections due to gram-positive organisms. However, even though this dye is nontoxic when applied locally it is capable of producing

alarming symptoms by direct intravenous introduction into the circulating blood.[3]

In general, the value of intravenous injections of gentian violet, acriflavine or other antiseptic dyes has not been well established, and the benefits, if any, of such administration require further study.

However, the recent report of Craig[31] indicates that the value of parenterally administered dyes is not limited to antisepetic action. In discussing the value of congo red to hasten blood clotting, this worker reported on the successful use of solutions of this dye, given intravenously, to arrest hemorrhage after tonsillectomy.

Dyes are among the most useful aids to physicians in the diagnosis of disease and much of medical progress in this phase of the healing art is directly attributable to the exploitation of these invaluable substances. Many important clinical laboratory procedures would undoubtedly be impossible without the dyes that go into bacteriological and histological staining solutions, into chemical indicators and a host of other essential materials.

The value of dyes, especially those of the phenolphthalein group, for determining the functioning of the liver and kidneys and for X-ray visualization, have already been indicated. Other dyes are also used in making such diagnoses. For example, indigo carmine, used in conjunction with the phenolsulfonphthalein clearence test and other procedures, has been employed in the diagnosis of genitourinary tuberculosis.[32] Injections of congo red have been advocated to facilitate the diagnosis of amyloid diseases.[33]

Dyes have a quite interesting history as useful aids in the study and diagnosis of digestive tract disorders. Hollander and his colleagues[34] have described a fairly new method for studying gastric contents by means of a procedure involving the use of phenol red. More recently, methylene blue solutions have been suggested as an aid to the diagnosis of gastric cancer.[35]

Fluorescein dyes are coming in for new and clinically valuable applications in the diagnosis of circulatory disorders.[36] The test is simple and depends upon the dye's fluorescence under ultra-violet light. After injection, the interval between the injection and the first appearance of fluorescence is sharply defined and may be timed to the second for accurate determinations. The practical applications for this procedure are many. For example, lack of fluorescence or its slow appearance indicates clearly that circulation is impeded in the organ under investigation. Thus, in cases of gangrene of the foot, healthy tissue receiving blood and those parts not functioning properly can be sharply differentiated to facilitate the amputation that may be needed.

Fluorescein has had a useful place in the diagnosis of lesions of the eye. It does not stain the normal conjunctiva but where the epithelium is damaged it produces a clearly differentiated stain that permits the doctor to make a more accurate diagnosis. The following solution is useful in this connection:[37]

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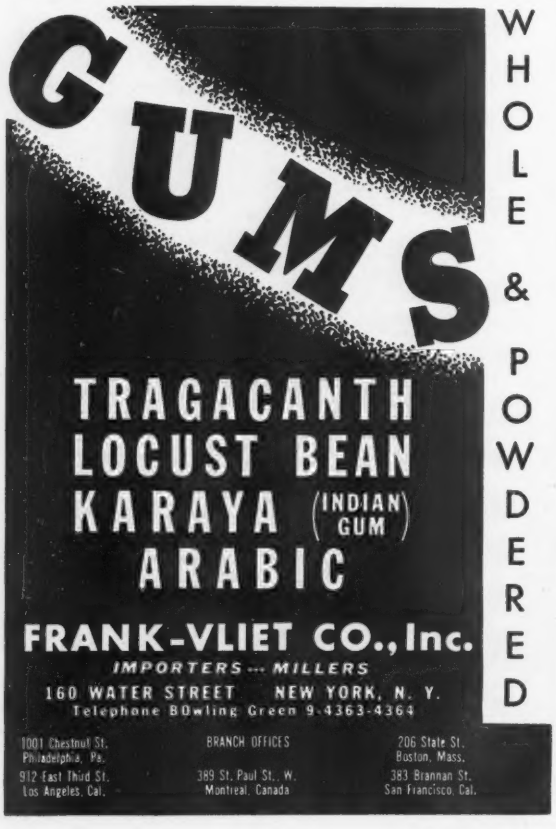

Fluorescein	0.2 Gm.
Sodium bicarbonate	0.3 Gm.
Distilled water	10.0 cc.

The stain disappears within two or three hours.

As an important part of modern chemotherapy and as aids in the field of diagnosis, the modern "coal-tar" dyes have earned themselves an important place in medicine. That their usefulness will be further extended is without question.

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Sugar Alcohols

(*Continued from page 391*)

The pharmaceutical possibilities of the sugar alcohols are numerous, only a few have been described in this communication. As sweetening agents replacing sucrose and as substitutes for glycerin during wartime these compounds offer additional advantages. These substances are partially metabolized in the animal body and follow the same general fate as glucose. As substitute sweeteners, therefore, they offer little advantage over cane sugar to the diabetic and these compounds should not be considered as "sugarless" substitutes for patients on sugar-free diets. Diabetic candies have been introduced as trade items containing mannitol or sorbitol as sweetening agents. When so used the caloric value should be indicated on the label, so that the physician may evaluate the food in the diet of the individual case.

These new compounds are generally considered to be non-toxic to the animal organism. It should be pointed out, however, that their usage in any given product must be determined on the merits of the finished preparation rather than on each individual ingredient.

Sorbitol syrup prepared by electrolytic reduction of corn sugar, glucose, is sold under the trade name of

Arlex. It is a non-crystallizing aqueous syrup practically colorless with a bland sweet taste and a slight caramel odor. In general, the viscosity, density and refractive index are higher than that of glycerin. This syrup is accepted by the Council on Dental Therapeutics of the American Dental Association. Pure crystallin d-sorbitol is a sweet tasting dry powder soluble in water. This compound crystallizes readily and is not suitable as a glycerin substitute if present in a preparation in high concentration.

Pure crystalline mannitol, while possessing a fine sweet taste, is not readily available for pharmaceutical use, because of war priorities. Mannitan monostearate is a fatty acid ester of the anhydride of mannitol. There are many esters. Mannide monooleate (Arlacel A) and mannitan nonooleate (Arlacel B) are others that are used extensively in the preparation of cosmetic creams. Sorbitan monooleate (Arlacel C), sorbide monostearate and mannitan monolaurate have been used most extensively in drugs and foods.

Commercial sorbitol-gelatin is sold under the trade name of "Dunnflex." This substance is a water soluble, solid gel resembling glycerinated gelatin in physical properties.

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Oil of Wormseed

(Continued from page 441)

solubilities, since upon aging the gravity will increase and the oil will become more soluble, although the ascaridole content will decrease.

Solubility alone cannot be taken as a true criterion of ascaridole content even in unadulterated oils. As has been pointed out by Gildemeister and Hoffmann,[1] oils rich in ascaridole may give solutions with 70 per cent. alcohol which are not completely clear; according to this authority, the poor solubility would appear to be due to the presence of a large resinous residue obtained upon fractionation. From observations in our laboratories, there appears to be no consistent relationship between the solubility of an oil and the amount of residue left upon evaporation. Evaporation residues (obtained by heating the oil at 100° C. for a period of four hours in a glass evaporation dish) did not differ appreciably, although some oils were clearly soluble in 8 volumes of 70 per cent. alcohol and some showed a slight turbidity. The evaporation residues of five oils varied from 0.9 per cent. to 1.2 per cent. This is also in accord with the findings of Nelson.[2] In a series of fractionations, distillation residues of 0.9 per cent. to 9.1 per cent. were obtained on normal and aged oils; all of these oils were completely soluble in 8 volumes of 70 per

1. *Die Atherischen Ole*, 3d Ed., Vol. II, p. 545.
2. *Perf. Ess. Oil Rec.* 247 (1920), 121.

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cent. alcohol. Yet an oil with a 2.8 per cent. residue and an oil with a 3.1 per cent. residue showed a slight turbidity in 8 volumes of 70 per cent. alcohol. Furthermore, two oils distilled from wild Florida plants, having normal residues of 2.2 per cent. and 2.4 per cent., were not completely soluble.

A slight turbidity is often encountered when 1 volume of Wormseed Oil is dissolved in 8 volumes of 70 per cent. alcohol. This should not be considered abnormal. Partial insolubility with the actual separation of oily droplets, however, indicates an inferior oil.

Chemical Composition of Wormseed Oil

ascaridole, $C_{10}H_{16}O_2$; the main constituent and active principle of wormseed oil was first isolated by the Schimmel chemists.[1] Wallach[2] identified it as a peroxide of the adjacent structure.

Previously Kremers[3] had observed that a large part of wormseed oil consists of a liquid which could not be distilled because it underwent an explosive decomposition when heated. In fact, ascaridole explodes violently at atmospheric pressure, even below its boiling point (83°C. at 4 to 5 mm.)

The Schimmel chemists[4] also identified the following constituents in the lowest boiling fractions (from 172°C. upward):

p-cymene; identified as p-hydroxy iso propyl benzoic acid.

sylvestrene or *carene*; occurs probably in small quantities in the oil.

d-camphor; traces only. Identified as semicarbazone and oxime.

Aside from those enumerated above, the presence of the following compounds was also established in wormseed oil:

l-limonene; by Nelson.[5] M. P. of tetrabromide 104° to 105° C.

α-terpinene; by Henry and Paget.[6] The same investigators also found.

a new laevo-rotating terpene; not further identified.

methyl salicylate; traces only.

butyric acid;

ascaridol glycol; about 5 per cent.

dimethyl ethylene oxide; *safrol*.. Henry and Paget[7] did not succeed in confirming the presence of safrol which seems to occur in the oil.

The Schimmel chemists[8] fractionated several qualities of American wormseed oil, all of different physical constants, and they came to the conclusion that:

A normal oil (specific gravity at 15°C. 0.9708) contained 62 to 65 per cent. ascaridole, about 22 per cent. p-cymene, and 4 to 6 per cent. distillation residue.

An oil of low gravity (0.9426 at 15°C.) contained 45 to 50 per cent. ascaridole and about 38 per cent. p-cymene which explains its inferior solubility in 70 per cent. alcohol; distillation residue 4 to 6 per cent.

An oil of own distillation contained 65 to 70 per cent. ascaridole, only 20 per cent. p-cymene and 12.5 per cent. distillation residue. This oil was of inferior

1. *Ber. Schimmel & Co.*, April 1908, 112.
2. *Liebigs Annalen*, 392 (1912), 59.
3. *Pharm. Revue* 25 (1907), 155.
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6. *Jour. Am. Chem. Soc.* (1911), 1405—*Jour. Chem. Soc.* 127 (1925) 1649.
7. *Op. cit.*
8. *Ber. Schimmel & Co.*, April 1908, 118.

solubility, despite its high content of soluble ascaridole and its low content of insoluble p-cymene. According to Gildemeister and Hoffmann[1], this is probably due to the high percentage of resinous matter present in this type of oil. Maybe the oil was distilled from the plants with steam of too high pressure. In this connection see also our own observations as explained in the section on analysis of wormseed oils.

Employment of Wormseed Oil

Whether or not ascaridole is the sole active principle of wormseed oil cannot be answered definitely; it is undoubtedly the most potent fraction, although other fractions, too, possibly possess anthelmintic properties.

The oil is used in medicine almost exclusively as an anthelmintic. Although originally employed mainly against ascarids, it has since been used most satisfactorily against all sorts of intestinal parasites, for instance hookworms. Bruening showed that one part in 5000 paralyzed but did not kill roundworms in dogs and that one part in 200 had a distinct antiseptic action. It is less efficacious against tapeworms. The oil has also been found useful in the treatment of amoebic dysentery (*entamoeba histolytica*). Wormseed oil, however, is a rather dangerous drug if given in substantial doses. It depresses the nervous system centered in the spinal cord of mammals and finally kills by arrest of respiration. The toxic effects are partly the results of local irritation of the alimentary track and of the eliminating organs, especially kidney and liver, partly of direct depressant action on the circulation and respiration. The symptoms of poisoning do not appear for several hours and manifest themselves in nausea, vomiting, headache and drowsiness, and finally in coma and convulsions. Its use should not be preceded by a period of starvation; poorly nourished animals and humans are more susceptible to the toxic effects of wormseed oil than healthy ones.

According to the United States Dispensatory, 22d Edition, the dose and method of administration differ according to the weight, age and nutritive state of the patient as well as with the type of infection. It is most conveniently administered enclosed in gelatin capsules and should be followed always with a purgative dose of castor oil. For roundworm infestation two or three doses of from 3 to 5 minims (0.2-0.3cc.) each at intervals of one or two hours may be administered to well nourished adults, but in hookworm considerably larger quantities have been used. For children and poorly nourished persons the doses should be reduced in proportion to the weight. It is important that the dose should be measured by minims and not by drops.

The United States Pharmacopoeia, 12th Revision, stipulates as follows:

Average Dose: *Caution!*
As an anthelmintic for adults
Single Dose—Metric, 1cc.
Apothecaries, 15 minims.

1. *Die Atherischen Ole*, 3d Ed., Vol. II, p. 545.

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SPECIALS: Colton Pill Machine; Colton Toggle Presses; Stokes Suppository Machine; Tube and Jar Fillers; Stokes and Smith Powder Fillers; Powder Mixers, 50 to 2000 lbs.; Rotex Sifters; Coating Pans; Pulverizers; Pumps; Packaging Equipment; Tablet Machines; Labelers; Glass Lined Tanks; Copper Kettles. Send for bulletins. BRILL EQUIPMENT COMPANY, 183 Varick Street, New York, N. Y.

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